FortiClient v5.0.0
XML Reference

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Change Log

Date	Change Description
2012-11-23	Initial release.

Introduction

FortiClient has been completely re-designed for v5.0.0. FortiClient provides a comprehensive network security solution for endpoints while improving your visibility and control. FortiClient allows you to manage the security of multiple endpoint devices from the FortiGate interface. This document provides an overview of FortiClient v5.0.0 XML configuration.

For more information on FortiClient installation and configuration, refer to the FortiClient v5.0.0 Administration Guide available at www.FortiClient.com or at the Fortinet Technical Documentation web site, http://docs.fortinet.com.

XML Configuration File

FortiClient configuration

File structure

FortiClient supports importation and exportation of it's configuration via an XML file. This section defines and describes the format of that file.

File extensions

FortiClient supports the following four file types:

- .conf

  A plain-text configuration file.
- .sconf

  A secure (encrypted) configuration file.
- .conn

  A plain-text VPN connection configuration file.
- .sconn

  A secure (encrypted) VPN connection configuration file.

A configuration file can be generated from the settings page of FortiClient dashboard or by using the command-line program: FCConfig.exe, installed with FortiClient. See the section: Importing and Exporting Configurations.

File sections

The configuration file contains the following major sections:

- Meta Data

  Basic data controlling the entire configuration file.
- System Settings

  General configurations that is not specific to any of the modules listed below (or affects more than one module).
- VPN settings
- Certificates
- AntiVirus
- Endpoint Control
- Single Sign-On Mobility
- WAN Optimization
- Web Filtering
- Application Firewall
- Vulnerability Scan

Each section is further discussed below.

Encrypted usernames and password

Several tag elements are named <password>. All such tags are always encrypted during configuration exports. For modified and imported configurations, FortiClient accepts either encrypted or plain-text passwords.

Here is an example of an encrypted password tag element. It starts with *Enc*:

```
<password>Enc9b4e1aae22c65e638aed4e47fbd225256a3b7a24b53f8370d6bc3b9
    aa90cecd5086c995f0549e944b4acc951e4844529c71d81280de2b951</pass
    word>
```

Several <username> tags also follow this format.

IP addresses

IP address tag elements usually refer to IP version 4 addresses. A fully qualified domain name may also be provided. Here are several valid examples:

- Single IP: 74.196.82.243
- FQDN: www.fortinet.com

Boolean values

Elements that determine if a feature is enabled or disabled use Boolean values. The configuration file accepts 0 for false, 1 for true.

Meta Data section

All of the XML tags and data in a configuration file are contained inside the tag <forticlient_configuration>. An empty configuration file will look like this:

```
<?xml version="1.0" encoding="utf-8"?>
<forticlient_configuration>
</forticlient_configuration>
```

The first line of the file includes an XML version number as well as the encoding. This is the standard XML start tag.

The following meta data is supported:

```
<forticlient_version>5.0.0.152</forticlient_version>
```

FortiClient version number if the file is exported from FortiClient.

```
<version>5.0</version>
```

Version of the configuration file.

```
<date>2012/10/31</date>
```

Date when the file was generated.

```
<partial_configuration>0</partial_configuration>
```

A flag that controls whether the configuration will be replaced or added in import/restore. Possible values are 0 or 1.

```
<os_version>windows</os_version>
```

Indicates whether this configuration is generated from Windows or Mac OS X. Possible values are windows or mac.

System settings

System settings are contained inside the <system></system> tags. It includes the following subsections:

- UI
- Log
- Proxy
- Updates

UI settings

UI-related information are contained inside the <ui></ui> tags:

```
<forticlient_configuration>
  <system>
    <ui>
      <ads>1</ads>
      <default_tab>AV</default_tab>
      <flashing_system_tray_icon>1</flashing_system_tray_icon>
      <hide_system_tray_icon>0</hide_system_tray_icon>
      <suppress_admin_prompt>0</suppress_admin_prompt>
      <password>Enc9b4e1aae22c65e638aed4e47fbd225256a3b7a24b53f8370
          d6bc3b9aa90cecd5086c995f0549e944b4acc951e4844529c71d8128
          0de2b951</password>
      <culture-code>en-us</culture-code>
    </ui>
  </system>
</forticlient_configuration>
```

The following table provides UI setting XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<ads>	Enable or disable of advertisements. Boolean: [0|1]	1
<default_tab>	Tab selected by default on dashboard. One of: • AV = AntiVirus • WF = Parental Control/Web Filtering • FW = Application Firewall • VPN = Remote Access • VULN = Vulnerability Scan	AV
<flashing_system_tray_icon>	System tray flashes while FortiClient background processes are running. Boolean value: [0|1]	1

<hide_system_tray_icon>	Hide the system tray icon. Boolean value: [0|1]	0
<suppress_admin_prompt>	Do not ask for administrator's password for tasks that require superuser permissions to complete. Boolean value: [0|1]	0
<password>	Either encrypted or non-encrypted password.	
<culture-code>	The localized language used by the FortiClient dashboard. One of: • cs-cz Czech • de-de German • en-us US English • es-es Spanish (European) • fr-fr French • hu-hu Hungarian • ja-jp Japanese • pt-br Brazilian Portuguese • ru-ru Russian • sk-sk Slovak • zh-cn Chinese (Simplified) • zh-tw Chinese (traditional)	en-us

Log settings

Log-related information will be inside the <log_settings></log_settings> tags:

```
<forticlient_configuration>
  <system>
    <log_settings>
      <level>6</level>
      <max_log_size>5120</max_log_size>
      <log_events>ipsecvpn,sslvpn,scheduler,update,firewall,av,clie
          ntmanager,proxy,shield,webfilter,endpoint,fssoma,wanacc,
          configd,vuln</log_events>
    </log_settings>
  </system>
</forticlient_configuration>
```

The following table provides log settings XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<level>	Log priority level. One of: • 0 = Emergency • 1 = Alert • 2 = Critical • 3 = Error • 4 = Warning • 5 = Notification • 6 = Information • 7 = Debug	6
<max_log_size>	Maximum size of the log file in kB. FortiClient will keep the log database as close to this size as possible. In FortiClient v5.0.1, this tag is removed. Instead FortiClient will use a hardcoded maximum number of log records, old logs are culled to make room for new logs.	5120
<log_events>	FortiClient events or processes to log. One or more comma-separated list of: • ipsecvpn = IPsec VPN • sslvpn = SSL-VPN • firewall = Firewall • av = AntiVirus • webfilter = Web Filtering • vuln = Vulnerability Scan • wanacc = WAN Optimization • fssoma = Single Sign-On mobility agent for FortiAuthenticator • scheduler = Scheduler • update = Update • proxy = FortiProxy • shield = FortiShield • endpoint = Endpoint Control • configd = Configuration	ipsecvpn,sslvpn,scheduler,update,firewall,av,clientmanager,proxy,shield,webfilter,endpoint,fssoma,wanacc,configd,vuln (enable all events by default)

The FortiShield daemon protects FortiClient's own filesystem, and registry settings from modification by unauthorized persons.

Proxy settings

Proxy-related information are contained inside the <proxy></proxy> tags:

```
<forticlient_configuration>
  <system>
    <proxy>
      <update>0</update>
      <online_scep>0</online_scep>
      <virus_submission>0</virus_submission>
      <type>http</type>
      <address />
      <port>80</port>
      <username>Encb33db9a4dd1786a5f9b6209d13a65d160f14e0d980748703
          </username>
      <password>Enccfd104974578a3067d14a16c1790466d94b3f72197b693aa
          </password>
    </proxy>
  </system>
</forticlient_configuration>
```

The following table provides proxy setting XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<update>	Enable or disable updates. Boolean value: [0|1]	0
<online_scep>	Enable or disable Simple Certificate Enrollment Protocol (SCEP). Enable this option if you use SCEP and to access it, you have to go through a proxy. Boolean value: [0|1]	0
<virus_submission>	Enable or disable virus submission to FortiGuard. Boolean value: [0|1]	0
<type>	One of: [HTTP | SOCKS4 | SOCKS5]	HTTP
<address/>	IP address or FQDN.	
<port>	Port number. Port range: 1 to 65535	80
<username>	Either encrypted or non-encrypted user name.	
<password>	Either encrypted or non-encrypted password.	

Update settings

Update-related information is contained inside the <update></update> tags:

```
<forticlient_configuration>
  <system>
    <update>
      <use_custom_server>0</use_custom_server>
      <server />
      <port />
      <timeout>60</timeout>
      <failoverport>8000</failoverport>
      <fail_over_to_fdn>1</fail_over_to_fdn>
      <update_action>notify_only</update_action>
      <scheduled_update>
        <enabled>1</enabled>
        <type>interval</type>
        <daily_at>03:00</daily_at>
        <update_interval_in_hours>3</update_interval_in_hours>
      </scheduled_update>
    </update>
  </system>
</forticlient_configuration>
```

The following table provides update setting XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<use_custom_server>	Define a custom server for updates. Boolean value: [0|1]	0
<server>	IP address or FQDN of update server.	
<port>	Port number of update server. Port range: 1 to 65535	80
<timeout>	Connection timeout, in seconds, when attempting to reach custom update server.	60
<failoverport>	Failover port number. Port range: 1 to 65535	8000
<fail_over_to_fdn>	Determines whether (or not) to use FortiGuard servers if communication with custom <server> fails.	1
<update_action>	One of: • download_and_install • download_only • notify_only	notify_only
<scheduled_update> tags		

<enabled>	Enable or disable scheduled updates. Boolean value: [0|1]	1
<type>	Update frequency: daily or at regular intervals. One of: [daily | interval]	interval
<daily_at>	Time of the day, in the format HH:MM, this field is mandatory if <type> is daily.	
<update_interval_in_hours>	Update interval in hours if <type> is interval.	3

When <use_custom_server> is 0 or <server> is an empty (NULL) string, FortiClient will only use the default FortiGuard server for software updates. If a string is specified in <server> and communication fails with that server then software updates will NOT be possible unless <fail_over_to_fdn> is set to 1.

If a string is specified in <server> and communication fails with that server, <fail_over_to_fdn> determines the next course of action as listed below:

<server>	<fail_over_to_fdn>	Result
"" (empty strings)	0	Only FortiGuard server is used.
"" (empty strings)	1	Only FortiGuard server is used.
"xyz" (valid IP address)	0	FortiGuard server is never used.
"xyz" (valid IP address)	1	FortiGuard server is used only as failover.

FortiProxy settings

FortiProxy information is contained inside the <fortiproxy></fortiproxy> tags:

```
<forticlient_configuration>
  <system>
    <fortiproxy>
      <enabled>1</enabled>
      <enable_https_proxy>1</enable_https_proxy>
      <http_timeout>600000</http_timeout>
      <client_comforting>
        <pop3_client>1</pop3_client>
        <pop3_server>1</pop3_server>
        <smtp>1</smtp>
      </client_comforting>
      <selftest>
        <enabled>0</enabled>
        <last_port>-172</last_port>
        <notify>0</notify>
      </selftest>
    </fortiproxy>
  </system>
</forticlient_configuration>
```

The following table provides FortiProxy XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<enabled>	Enable or disable FortiProxy. Boolean value: [0|1]	1
<enable_https_proxy>	Enable or disable HTTPS proxy. Boolean value: [0|1]	1
<http_timeout>	Connection timeout in milliseconds (ms).	60000
	<client_comforting> elements	
<pop3_client>	POP3 client comforting. Client comforting helps to prevent POP3 clients from complaining that the server has not responded in time. Boolean value: [0|1]	1
<pop3_server>	POP3 server comforting. Server comforting helps to prevent POP3 servers from complaining that the client has not responded in time. Boolean value: [0|1]	1
<smtp>	SMTP comforting. SMTP comforting helps to prevent SMTP clients from complaining that the server has not responded in time. Boolean value: [0|1]	1
	<selftest> elements	
<enabled>	Enable or disable self tests. FortiProxy periodically checks it's own connectivity to determine if it is able to proxy other applications traffic. Boolean value: [0|1]	1
<last_port>	Last port number used. This is the highest port number you want to allow FortiProxy to listen on. Use to prevent FortiProxy from binding to another port that another service normally uses.	65535
<notify>	Notify the user if self-tests fail. Boolean value: [0|1]	1

VPN

VPN related information is contained inside the <VPN></VPN> tags. The VPN configuration includes the following subsections:

- Options

  Global options that apply to both IPsec and SSL-VPN.
- IPsec VPN

  IPsec related configurations.
- SSL-VPN

  SSL-VPN configurations.

IPsec VPN and SSL-VPN each have two subsections:

- Options

  Options related to the specific type of VPN.
- Connections

  User defined connections.

VPN Options

The VPN <options> tag contains global information controlling VPN states:

```
<forticlient_configuration>
  <vpn>
    <options>
      <current_connection_name>ssldemo</current_connection_name>
      <current_connection_type>ssl</current_connection_type>
      <save_password>0</save_password>
      <minimize_window_on_connect>1</minimize_window_on_connect>
      <show_vpn_before_logon>0</show_vpn_before_logon>
      <use_windows_credentials>1</use_windows_credentials>
      <show_negotiation_wnd>0</show_negotiation_wnd>
    </options>
  </vpn>
</forticlient_configuration>
```

The following table provides VPN option XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<current_connection_name>	Name of the current connection, if any.	
<current_connection_type>	Type of the current connection. One of: [ipsec | ssl]	
<save_password>	Save user-provided connection passwords. Boolean value: [0|1]	0

<minimize_window_on_connect>	Minimize the FortiClient dashboard after successfully establishing a connection. Boolean value: [0|1]	1
<show_vpn_before_logon>	Allow user to select VPN connection from a list before login onto the system. Boolean value: [0|1]	0
<use_windows_credentials>	Connect with current user name and password. Boolean value: [0| 1]	1
<show_negotiation_wnd>	Display information on FortiClient dashboard while establishing connections. Boolean value: [0|1]	0

SSL-VPN

SSL-VPN configurations consist of one options section, followed by one or more connection details.

```
<forticlient_configuration>
<vpn>
  <sslvpn>
    <options>
      <enabled>1</enabled>
      <keep_connection_alive>1</keep_connection_alive>
    </options>
    <connections>
      <connection>
        <name>ssldemo</name>
        <server>ssldemo.fortinet.com:10443</server>
        <username>Enc6bd50fbb0aec8c122142e572d107bfc10492cd61754bb
            45308d66c7cb0
        </username>
        <password>Encca7f0c3676ddaaf9685f4cd71e399b80bfa86795c556e
            4413cb9e14b12
        </password>
        <certificate />
        <warn_invalid_server_certificate>1</warn_invalid_server_ce
            rtificate>
        <prompt_certificate>0</prompt_certificate>
        <prompt_username>0</prompt_username>
        <on_connect>
          <script>
            <os>windows</os>
            <script>
              <script>
              <![CDATA[
              net use x: \\server1\share /user:#username#
                  #password#
```

```
                    net use y: \\server2\share /user:#username#
                         #password#
                    net use z: \\server3\share /user:#username#
                         #password#
                    copy %temp%\*.logs z:\share\logs\
                    copy z:\files\*.* c:\files\
                    ]]>
                  </script>
                </script>
              </script>
            </on_connect>
            <on_disconnect>
              <script>
                <os>windows</os>
                <script>
                  <script>
                    <![CDATA[
                    net use x: /DELETE
                    net use y: /DELETE
                    net use z: /DELETE
                    ]]>
                  </script>
                </script>
              </script>
            </on_disconnect>
          </connection>
        </connections>
        </sslvpn>
      </vpn>
      </forticlient_configuration>
```

The following table provides SSL-VPN XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	<sslvpn> <options> elements	
<enabled>	Enable or disable SSL-VPN. Boolean value: [0|1]	1
<keep_connection_alive>	Retry restoring connection of an active VPN session. Boolean value: [0|1]	

The <connections> tag may contain one or more <connection> elements. Each <connection> has the following:

- information used to establish an SSL VPN connection
- on_connect: a script to run right after a successful connection
- on_disconnect: a script to run just after a disconnection

Connection details is described in table below.

The following table provides VPN connection XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<name>	VPN connection name.	
<server>	IP address or FQDN of SSL server, along with the port number as applicable.	Default port number: 443
<username>	Either encrypted or non-encrypted user name on SSL server.	
<password>	Either encrypted or non-encrypted password of the given user	
<certificate>	Encrypted certificate name to connect with.	
<warn_invalid_server_certificate>	Enable or disable displaying of a warning message if the server certificate is invalid. Boolean value: [0|1]	0
<prompt_certificate>	Request for a certificate during a connection establishment. Boolean value: [0|1]	0
<prompt_username>	Request for a user name. Boolean value: [0|1]	1

VPN connection name is mandatory. If a connection of this type and this name exists, its values will be overwritten with the new ones.

The <on_connect> and <on_disconnect> tags both have very similar tag structure:

```
<on_connect>
  <script>
    <os>windows</os>
    <script>
      <script>
        <![CDATA[
        ]]>
      </script>
    </script>
  </script>
</on_connect>
<on_disconnect>
  <script>
    <os>windows</os>
```

```
        <script>
          <script>
            <![CDATA[
            ]]>
          </script>
        </script>
      </script>
    </on_disconnect>
```

The following table provides CDATA XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
`<os>`	The operating system for which the script is written. One of: `[windows | mac]`	
`<script>`	The MS DOS batch or Mac OS X shell script to run.	
`<![CDATA[ ]]>`	Wraps the scripts in CDATA elements.	

The DOS batch or Mac OS X Shell script should be wrapped inside the CDATA tag, one line per command, just like a regular script file.

The script will be executed in the context of the user that connected the tunnel. Wherever #username# is used in the script, it will be automatically substituted with the xauth username of the user that connected the tunnel. Where `#password#` is used in the script, it will be automatically substituted with the xauth password of the user that connected the tunnel. The XML file should have carriage returns and line feeds as appropriate.

The example scripts above show a script that mounts several network drives after an SSL connection is established. The drives are unmounted with the corresponding scripts in the `<on_disconnect>` tag.

The `<on_connect>` and `<on_disconnect>` scripts are optional.

IPsec VPN

IPsec VPN configurations have one options section, and one or more connection details.

```
<forticlient_configuration>
<vpn>
  <ipsecvpn>
    <options>
      <enabled>1</enabled>
      <beep_if_error>0</beep_if_error>
      <beep_continuously>0</beep_continuously>
      <beep_seconds>0</beep_seconds>
      <usewincert>1</usewincert>
      <uselocalcert>0</uselocalcert>
      <usesmcardcert>1</usesmcardcert>
      <mtu_size>1300</mtu_size>
      <use_windows_credentials>0</use_windows_credentials>
    </options>
```

```
<connections>
  <connection>
    <name>ipsecdemo</name>
    <type>manual</type>
    <tray_menu>1</tray_menu>
    <ike_settings>
      <prompt_certificate>0</prompt_certificate>
      <server>ipsecdemo.fortinet.com</server>
      <authentication_method>Preshared
          Key</authentication_method>
      <auth_key>Encdab907ed117eafaadd92f82b3e768b5414e4402dbd4
          df4585d4202c65940f1b2e9</auth_key>
      <mode>aggressive</mode>
      <dhgroup>5;</dhgroup>
      <key_life>28800</key_life>
      <localid />
      <nat_traversal>1</nat_traversal>
      <mode_config>1</mode_config>
      <enable_local_lan>0</enable_local_lan>
      <nat_alive_freq>5</nat_alive_freq>
      <dpd>1</dpd>
      <dpd_retry_count>3</dpd_retry_count>
      <dpd_retry_interval>5</dpd_retry_interval>
      <enable_ike_fragmentation>0</enable_ike_fragmentation>
      <xauth>
        <enabled>1</enabled>
        <prompt_username>1</prompt_username>
        <username>Enc02355436679b004573d2a1586d399de912e37ee19
            3ba0d14</username>
        <password />
        <attempts_allowed>1</attempts_allowed>
        <use_otp>0</use_otp>
      </xauth>
      <proposals>
        <proposal>3DES|MD5</proposal>
        <proposal>3DES|SHA1</proposal>
        <proposal>AES128|MD5</proposal>
        <proposal>AES128|SHA1</proposal>
      </proposals>
    </ike_settings>
    <ipsec_settings>
      <remote_networks>
        <network>
          <addr>0.0.0.0</addr>
          <mask>0.0.0.0</mask>
        </network>
      </remote_networks>
      <dhgroup>5</dhgroup>
      <key_life_type>seconds</key_life_type>
```

```
            <key_life_seconds>1800</key_life_seconds>
            <key_life_Kbytes>5120</key_life_Kbytes>
            <replay_detection>1</replay_detection>
            <pfs>1</pfs>
            <autokey_key_alive>0</autokey_key_alive>
            <use_vip>1</use_vip>
            <virtualip>
              <type>modeconfig</type>
              <ip>0.0.0.0</ip>
              <mask>0.0.0.0</mask>
              <dnsserver>0.0.0.0</dnsserver>
              <winserver>0.0.0.0</winserver>
            </virtualip>
            <proposals>
              <proposal>3DES|MD5</proposal>
              <proposal>3DES|SHA1</proposal>
              <proposal>AES128|MD5</proposal>
              <proposal>AES128|SHA1</proposal>
            </proposals>
          </ipsec_settings>
          <on_connect>
            <script>
              <os>windows</os>
              <script>
              <script>
                <![CDATA[]]>
              </script>
            </script>
          </on_connect>
          <on_disconnect>
            <script>
              <os>windows</os>
              <script>
                <script>
                  <![CDATA[]]>
                </script>
              </script>
            </script>
          </on_disconnect>
        </connection>
      </connections>
      </ipsecvpn>
    </vpn>
    </forticlient_configuration>
```

The following table provides IPsec VPN XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	<ipsecvpn> <options> elements	
<enabled>	Enable or disable IPsec VPN. Boolean value: [0|1]	1
<beep_if_error>	Beep if VPN connection attempt fails. Boolean value: [0|1]	0
<beep_continuously>	Enable or disable the continuous beep. Boolean value: [0|1]	1
<beep_seconds>	Enter a value for the number of seconds to beep if an error occurs.	60
<usewincert>	Use Windows certificates for connections. Boolean value: [0|1]	
<uselocalcert>	Use local certificates for connections. Boolean value: [0|1]	
<usesmcardcert>	Use certificates on smart cards. Boolean value: [0|1]	
<mtu_size>	Maximum Transmit Unit (MTU) size for packets on the VPN tunnel.	
<use_windows_credentials>	Use Windows login credentials for VPN authentication. Boolean value: [0|1]	

The <connections> tag may contain one or more <connection> elements. Each <connection> has the following:

- name and type: the name and type of connection
- IKE settings: information used to establish an IPsec VPN connection
- IPsec settings:
- on_connect: a script to run right after a successful connection
- on_disconnect: a script to run just after a disconnection

The following table provides VPN connection XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<name>	VPN connection name.	

<type>	IPSec connection type. One of: [manual | auto]	
<tray_menu>	Enable or disable the tray menu. Boolean value: [0|1]	1

VPN connection name is mandatory. If a connection of this type and this name exists, its values will be overwritten with the new ones.

IKE settings

Internet Key Exchange (IKE) is performed automatically based on pre-shared keys or X.509 digital certificates.

The following table provides IKE setting XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<prompt_certificate>	Prompt for certificate on connect. Boolean value: [0|1]	
<server>	IP address or FQDN.	
<authentication_method>	Authentication method. One of: • Preshared Key • X509 Certificate • Smartcard X509 Certificate • System Store X509 Certificate	
<auth_key>	An encrypted value depending on the authentication method: a preshared key or a certificate name.	
<mode>	Connection mode. One of: [aggressive | main]	
<dhgroup>	A list of possible Diffie-Hellman (DH) protocol groups, separated by semi-colon.	
<key_life>	Phase 2 key expiry duration, in seconds.	28800
<localid>		
<nat_traversal>	Enable or disable NAT traversal. Boolean value: [0|1]	
<mode_config>	Enable or disable mode configuration. Boolean value: [0|1]	

<enable_local_lan>	Enable or disable local LAN. Boolean value: [0|1]	
<nat_alive_freq>	NAT alive frequency.	
<dpd>	Enable or disable Dead Peer Detection (DPD). Boolean value: [0|1]	1
<dpd_retry_count>	Number of times to send unacknowledged DPD messages before declaring peer as dead.	3
<dpd_retry_interval>	Duration of DPD idle periods, in seconds.	5
<enable_ike_fragmentation>	Support fragmented IKE packets.	0
	<xauth> elements	
<enabled>	Select to use IKE Extended Authentication (Xauth). Boolean value: [0|1]	
<prompt_username>	Request for a user name. Boolean value: [0|1]	
<username>	Either encrypted or non-encrypted user name on IPsec server.	
<password>	Either encrypted or non-encrypted password.	
<attempts_allowed>	Maximum number of failed login attempts allowed.	
<use_otp>	Use One Time Password. Boolean value: [0|1]	
	<proposals> elements	
<proposal>	Encryption and authentication types to use, separated by a pipe. Example: <proposal>3DES|MD5<proposal> Multiple elements accepted. First setting: Encryption type: DES, 3DES, AES128, AES192, AES256 Second setting: Authentication type: MD5, SHA1, SHA256	

IPsec settings

The following table provides IPsec setting XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	<remote_networks> elements	
<network>	Specifies a network address <addr>, with subnet mask <mask>.	
<addr>	Network IP address.	
<mask>	Subnet mask to apply to network address <addr>.	
<dhgroup>	A list of possible Diffie-Hellman (DH) protocol groups, separated by semi-colon.	
<key_life_type>	Phase 2 key re-key duration type. One of: [seconds | kbytes | both]	
<key_life_seconds>	Phase 2 key maximum life in seconds.	1800
<key_life_Kbytes>	Phase 2 key maximum life in kB.	5120
<replay_detection>	Detect an attempt to replay a previous VPN session.	
<pfs>	Enable or disable Perfect Forward Secrecy. Boolean value: [0|1]	
<autokey_keep_alive>	Enable or disable autokey keep alive. Boolean value: [0|1]	
<use_vip>	Use virtual IP. Boolean value: [0|1]	
	<virtualip> elements	
<type>	Type of Virtual IP. One of: [modeconfig | dhcpoveripsec]	
<ip>	IP address.	
<mask>	Network mask.	
<dnsserver>	DNS server IP address.	
<winserver>	Windows server IP address.	

<proposals> elements	
<proposal>	Encryption and authentication types to use, separated by a pipe. Example: <proposal>3DES|MD5<proposal> Multiple elements accepted. First setting: Encryption type: DES, 3DES, AES128, AES192, AES256 Second setting: Authentication type: MD5, SHA1, SHA256

The on_connect and on_disconnect structure and scripting format are similar to that described in the section titled: SSL-VPN earlier.

Certificates

Certificates are contained in the <certificates></certificates> tags. There are two subsections:

- CA certificate

  Base 64 encoded CA certificate.
- CRL

  Uses Online Certificate Status Protocol (OCSP).

```
<forticlient_configuration>
  <certicates>
  <CA_certificates/>
    <CRL>
      <OCSP>
        <enabled>1</enabled>
        <server>187.205.34.96</server>
        <port>80</port>
      </OCSP>
    </CRL>
  </certficates>
</forticlient_configuration>
```

The following table provides certificate XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	<CRL> <OCSP> elements	
<enabled>	Use Online Certificate Status Protocol (OCSP). Boolean value: [0 | 1]	
<server>	Enter the server IP address.	
<port>	Enter the server port number.	

AntiVirus

The AntiVirus configuration data are contained in the `<antivirus></antivirus>` tags.

The following are subsections of the AntiVirus configuration.

- General options

  Options that apply to the overall operation of the Antivirus service.
- Scheduled scans

  Scheduled scanning of the system.
- On-demand scans

  Details relating to on-demand scans.
- Real-time protection

  Options to use during when real-time protection scanning is activated.
- Email

  How to handle scanning of email messages.
- Quarantine

  Configures quarantine operations.
- Server

  Special options for servers.

AntiVirus general options

This has options that enable or disable various services in the Antivirus product.

```
<forticlient_configuration>
  <antivirus>
    <signature_expired_notification>0</signature_expired_notificati
        on>
    <scan_on_insertion>0</scan_on_insertion>
    <shell_integration>1</shell_integration>
    <antirootkit>-1</antirootkit>
    <fortiguard_analytics>0</fortiguard_analytics>
  </antivirus>
</forticlient_configuration>
```

The following table provides AntiVirus general option XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
`<signature_expired_notification>`	Enable or disable expired signature notification. Boolean value: `[0|1]`	0
`<scan_on_insertion>`	Enable or disable scan on insertion. Boolean value: `[0|1]`	0
`<shell_integration>`	Enable or disable shell integration. Boolean value: `[0|1]`	1

<antirootkit>	Enable or disable anti-rootkit. Boolean value: [0|1]	1
<fortiguard_analytics>	Enable or disable FortiGuard analytics. Boolean value: [0|1]	1

Scheduled scans

User may schedule scanning for viruses in one of three ways:

- Full scan
  Scan the entire system.
- Quick scan
  Scan only none-system files.
- Custom scan
  Scan a selection of files, as specified by user.

Zero, one or more of these may be configured at any one time.

```
<forticlient_configuration>
  <antivirus>
    <scheduled_scans>
      <!--zero, one or more of the following child nodes-->
      <quick>
        <enabled>1</enabled>
        <repeat>1</repeat>
        <date>2012/10/30</date>
        <days>2</days>
        <day_of_month>21</day_of_month>
        <time>15:30</time>
      </quick>
      <full>
        <enabled>1</enabled>
        <repeat>1</repeat>
        <days>2</days>
        <time>18:30</time>
        <removable_media>1</removable_media>
        <network_drives>0</network_drives>
        <priority>0</priority>
      </full>
      <directory>
        <enabled>1</enabled>
        <repeat>1</repeat>
        <date>2012/10/30</date>
        <days>2</days>
        <day_of_month>21</day_of_month>
        <time>18:30</time>
        <directory>c:\users\</directory>
        <priority>2</priority>
      </directory>
```

```
      </scheduled_scans>
    </antivirus>
  </forticlient_configuration>
```

Each of three scheduling options require specification of several common elements, which define when scanning should occur. The common elements are described first. Other elements specific to the full and custom scans are described later.

The following table provides scheduled scan XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	common elements	
<enabled>	Enable or disable scheduled scan. Boolean value: [0|1]	
<repeat>	Frequency of repeats. One of: • 0 daily • 1 weekly • 2 monthly	
<date>	Date to run scan in the format YYYY/MM/DD.	
<days>	Day of the week to run scan. Multiple days may be provided, separated by comma. One of: • 1 Sunday • 2 Monday • 3 Tuesday • 4 Wednesday • 5 Thursday • 6 Friday • 7 Saturday	
<day_of_month>	The day of the month to run a scan. A number from 1 to 31	
<time>	Time value in 24 hour clock.	

Only one of the elements: <date>, <days>, <day_of_month> is required. The factory default at the time of installation is to run a full scan on Mondays at 18:30 hours.

The following table provides element XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	<full> elements	

<removable_media>	Enable or disable scanning files on removable media. Boolean value: [0|1]	1
<network_drives>	Enable or disable scanning files on network drives. Boolean value: [0|1]	0
<priority>	Scan priority. One of: • 0 normal • 1 low • 2 high	0
	<directory> elements	
<directory>	The full path to the directory to scan.	
<priority>	Scan priority. One of: • 0 normal • 1 low • 2 high	

On-Demand scans

The <on_demand_scanning> element defines how the antivirus scanner handles scanning of files manually requested by the end user.

```
<forticlient_configuration>
  <antivirus>
    <on_demand_scanning>
    <on_virus_found>0</on_virus_found>
    <pause_on_battery_power>1</pause_on_battery_power>
    <automatic_virus_submission>
      <enabled>0</enabled>
      <smtp_server>fortinetvirussubmit.com</smtp_server>
      <username />
      <password>Enc6a7457a9e3e6155dee0238dcaa8825521ae749fd66ffc32a
          </password>
    </automatic_virus_submission>
    <compressed_files>
      <scan>1</scan>
      <maxsize>0</maxsize>
    </compressed_files>
    <riskware>
      <enabled>1</enabled>
    </riskware>
    <adware>
      <enabled>1</enabled>
    </adware>
```

```
<heuristic_scanning>1</heuristic_scanning>
<scan_file_types>
  <all_files>1</all_files>
  <file_types>
    <extensions>.386,.ACE,.ACM,.ACV,.ACX,.ADT,.APP,.ASD,.ASP,.
        ASX,.AVB,.AX,.AX2,.BAT,.BIN,.BTM,.CDR,.CFM,.CHM,.CLA,.
        CLASS,.CMD,.CNN,.COM,.CPL,.CPT,.CPY,.CSC,.CSH,.CSS,.DE
        V,.DLL,.DOC,.DOT,.DRV,.DVB,.DWG,.EML,.EXE,.FON,.GMS,.G
        VB,.HLP,.HTA,.HTM,.HTML,.HTT,.HTW,.HTX,.HXS,.INF,.INI,
        .JPG,.JS,.JTD,.KSE,.LGP,.LIB,.LNK,.MDB,.MHT,.MHTM,.MHT
        ML,.MOD,.MPD,.MPP,.MPT,.MRC,.OCX,.PIF,.PL,.PLG,.PM,.PN
        F,.PNP,.POT,.PPA,.PPS,.PPT,.PRC,.PWZ,.QLB,.QPW,.REG,.R
        TF,.SBF,.SCR,.SCT,.SH,.SHB,.SHS,.SHT,.SHTML,.SHW,.SIS,
        .SMM,.SWF,.SYS,.TD0,.TLB,.TSK,.TSP,.TT6,.VBA,.VBE,.VBS
        ,.VBX,.VOM,.VSD,.VSS,.VST,.VWP,.VXD,.VXE,.WBK,.WBT,.WI
        Z,.WK,.WML,.WPC,.WPD,.WSC,.WSF,.WSH,.XLS,.XML,.XTP</ex
        tensions>
      <include_files_with_no_extension>0</include_files_with_n
          o_extension>
  </file_types>
  </scan_file_types>
  <exclusions>
  <!--the element below can exist 0-n times-->
  <file></file>
  <!--the element below can exist 0-n times-->
  <folder></folder>
  <file_types>
    <extensions />
  </file_types>
</exclusions>
  </on_demand_scanning>
</antivirus>
</forticlient_configuration>
```

The following table provides on-demand scan XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<on_virus_found>	Action to perform if a virus is found. One of: • 0 clean • 1 ignore • 2 repair • 3 warning • 4 quarantine • 5 deny access	0

<pause_on_battery_power>	Suspend scanning when system is on battery. Boolean value: [0|1]	1
<heuristic_scanning>	Enable or disable heuristics signatures. Boolean value: [0|1]	1
<automatic_virus_submission> elements		
<enabled>	Send virus files found to FortiGuard servers. Boolean value: [0|1]	0
<smtp_server>	SMTP server IP address or FQDN.	fortinetvirussubmit.com
<password>	Either encrypted or non-encrypted password.	
<compressed_files> elements		
<scan>	Enable or disable scanning of compressed files. Boolean value: [0|1]	1
<maxsize>	Maximum compressed file size to scan in MB. A number up to 65535. 0 means no limit.	0
<riskware> elements		
<enabled>	Enable or disable scanning of riskware files. Boolean value: [0|1]	1
<adware> elements		
<enabled>	Enable or disable scanning of adware files. Boolean value: [0|1]	1
<scan_file_types> elements		
<all_files>	Enabled or disable scanning of all file types. If enabled, ignore the <file_types> element. Boolean value: [0|1]	1
<scan_file_types> <file_types> elements		
<extensions>	Comma separated list of extensions to scan.	
<include_files_with_no_extension>	Determines whether to scan files with no extension. Boolean value: [0|1]	0

<exclusions> elements	
<file>	Full path to a file to exclude from on-demand scanning. Wildcards are not accepted. Element may be repeated to list more files.
<folder>	Full path to a directory to exclude from on-demand scanning. Wildcards are not accepted. Element may be repeated to list more directories.
<exclusions> <file_types> elements	
<extensions>	Comma separated list of extensions to exclude from on-demand scanning.

Real-time protection

The <real_time_protection> element configures how the scanner processes files used by programs running on the system.

Several tags are similar between this section and the previous one: <on_demand_scanning>.

```
<forticlient_configuration>
  <antivirus>
    <real_time_protection>
      <enabled>1</enabled>
      <when>0</when>
      <on_virus_found>0</on_virus_found>
      <popup_alerts>0</popup_alerts>
      <popup_registry_alerts>0</popup_registry_alerts>
      <compressed_files>
        <scan>1</scan>
        <maxsize>2</maxsize>
      </compressed_files>
      <riskware>
        <enabled>1</enabled>
      </riskware>
      <adware>
        <enabled>1</enabled>
      </adware>
      <heuristic_scanning>
        <enabled>0</enabled>
        <action>0</action>
      </heuristic_scanning>
      <scan_file_types>
        <all_files>1</all_files>
        <file_types>
        <extensions>.386,.ACE,.ACM,.ACV,.ACX,.ADT,.APP,.ASD,.ASP,.
             ASX,.AVB,.AX,.AX2,.BAT,.BIN,.BTM,.CDR,.CFM,.CHM,.CLA,.
             CLASS,.CMD,.CNN,.COM,.CPL,.CPT,.CPY,.CSC,.CSH,.CSS,.DE
             V,.DLL,.DOC,.DOT,.DRV,.DVB,.DWG,.EML,.EXE,.FON,.GMS,.G
```

```
                    VB,.HLP,.HTA,.HTM,.HTML,.HTT,.HTW,.HTX,.HXS,.INF,.INI,
                    .JPG,.JS,.JTD,.KSE,.LGP,.LIB,.LNK,.MDB,.MHT,.MHTM,.MHT
                    ML,.MOD,.MPD,.MPP,.MPT,.MRC,.OCX,.PIF,.PL,.PLG,.PM,.PN
                    F,.PNP,.POT,.PPA,.PPS,.PPT,.PRC,.PWZ,.QLB,.QPW,.REG,.R
                    TF,.SBF,.SCR,.SCT,.SH,.SHB,.SHS,.SHT,.SHTML,.SHW,.SIS,
                    .SMM,.SWF,.SYS,.TD0,.TLB,.TSK,.TSP,.TT6,.VBA,.VBE,.VBS
                    ,.VBX,.VOM,.VSD,.VSS,.VST,.VWP,.VXD,.VXE,.WBK,.WBT,.WI
                    Z,.WK,.WML,.WPC,.WPD,.WSC,.WSF,.WSH,.XLS,.XML,.XTP</ex
                    tensions>
                <include_files_with_no_extension>0</include_files_with_no_
                    extension>
              </file_types>
            </scan_file_types>
            <exclusions>
              <!--the element below can exist 0-n times-->
              <!--the element below can exist 0-n times-->
              <file_types>
                <extensions />
              </file_types>
            </exclusions>
          </real_time_protection>
          </antivirus>
        </forticlient_configuration>
```

The following table provides real time protection XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<enabled>	Enable or disable real time protection. Boolean value: [0|1]	1
<when>	File I/O activities that result in a scan. One of: • 0 read and write • 1 only on read • 2 only on write	0
<on_virus_found>	Action to perform if a virus is found. One of: • 0 clean • 1 ignore • 2 repair • 3 warning • 4 quarantine • 5 deny access	5
<popup_alerts>	Display alerts when a virus is found. Boolean value: [0|1]	1

<popup_registry_alerts>	Enable or disable pop-up registry alerts. This feature displays alerts if a process tries to change registry start items. Boolean value: [0|1]	0
<compressed_files> elements		
<scan>	Enable or disable scanning of compressed files. Boolean value: [0|1]	1
<maxsize>	Maximum compressed file size to scan in MB. A number up to 65535. 0 means no limit.	2
<riskware> elements		
<enabled>	Enable or disable scanning of riskware files. Boolean value: [0|1]	1
<adware> elements		
<enabled>	Enable or disable scanning of adware files. Boolean value: [0|1]	1
<heuristic_scanning> elements		
<enabled>	Enable or disable heuristics signatures. Boolean value: [0|1]	0
<action>	Action to perform if a virus is found. One of: • 0 warning • 1 deny access	
<scan_file_types> elements		
<all_files>	Enabled or disable scanning of all file types. If enabled, ignore the <file_types> element. Boolean value: [0|1]	1
<scan_file_types> <file_types> elements		
<extensions>	Comma separated list of extensions to scan.	
<include_files_with_no_extension>	Determines whether to scan files with no extension. Boolean value: [0|1]	0
<exclusions> elements		
<file>	Full path to a file to exclude from on-demand scanning. Wildcards are not accepted. Element may be repeated to list more files.	

<folder>	Full path to a directory to exclude from on-demand scanning. Wildcards are not accepted. Element may be repeated to list more directories.
<exclusions> <file_types> elements	
<extensions>	Comma separated list of extensions to exclude from on-demand scanning.

Email

Emails will be scanned for virus based on the settings in the <email> tag.

```
<forticlient_configuration>
  <antivirus>
    <email>
      <smtp>1</smtp>
      <pop3>1</pop3>
      <outlook>1</outlook>
      <wormdetection>
        <enabled>0</enabled>
        <action>0</action>
      </wormdetection>
      <heuristic_scanning>
        <enabled>0</enabled>
        <action>0</action>
      </heuristic_scanning>
    </email>
  </antivirus>
</forticlient_configuration>
```

The following table provides email XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<smtp>	When enabled, scan email messages sent through SMTP protocol. Boolean value: [0|1]	1
<pop3>	Determines whether to scan email messages received through POP3 protocol. Boolean value: [0|1]	1
<outlook>	Scan email files processed through Outlook. Boolean value: [0|1]	1
<wormdetection> elements		
<enabled>	Scan for worm viruses. Boolean value: [0|1]	0

<action>	Action to perform if a virus is found. One of: • 0 warn • 1 terminate process	0
	<heuristic_scanning> elements	
<enabled>	Enable or disable heuristics signatures. Boolean value: [0|1]	0
<action>	Action to perform if a virus is found. One of: • 0 log and warn • 1 strip and quarantine	0

Quarantine

The maximum age for quarantined files is specified in the <quarantine> tag.

```
<forticlient_configuration>
  <antivirus>
    <quarantine>
      <cullage>100</cullage>
    </quarantine>
  </antivirus>
</forticlient_configuration>
```

The following table provides quarantine XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<cullage>	How long to hold quarantined files, in days, before deleting them. A number from 1 to 365	100

Server

On Windows servers, it may be desired to exclude system files from being scanned. These are configured in the <server> tag.

```
<forticlient_configuration>
  <antivirus>
    <server>
      <exchange>
        <integrate>0</integrate>
        <action>0</action>
        <excludefilesystemfromscanning>0</excludefilesystemfromsca
            nning>
        <excludefileextensionsfromscanning>0</excludefileextension
            sfromscanning>
```

```
        </exchange>
        <sqlserver>
            <excludefilesystemfromscanning>0</excludefilesystemfromsca
                nning>
            <excludefileextensionsfromscanning>0</excludefileextension
                sfromscanning>
          </sqlserver>
        </server>
      </antivirus>
    </forticlient_configuration>
```

The following table provides server XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	`<exchange>` elements	
`<integrate>`	Boolean value: `[0|1]`	0
`<action>`	Action to perform if a virus is found. One of: • `0` `Quarantine` • `1` `Remove Attachment Only`	0
`<excludefilesystemfromscanning>`	Enable to exclude file system from scanning. Boolean value: `[0|1]`	0
`<excludefileextensionsfromscanning>`	Enable to exclude file extensions from scanning. Boolean value: `[0|1]`	0
	`<sqlserver>` elements	
`<excludefilesystemfromscanning>`	Enable to exclude file system from scanning. Boolean value: `[0|1]`	0
`<excludefileextensionsfromscanning>`	Enable to exclude file extensions from scanning. Boolean value: `[0|1]`	0

Endpoint Control

Endpoint Control configuration elements are usually downloaded from a FortiGate following registration of a FortiClient user to the same FortiGate. There are two sections:

- Endpoint Control general attributes.

  These are contained in the `<endpoint_control></endpoint_control>` tags.
- Configuration details relating to specific FortiClient services, such as Antivirus, Web Filtering, Application Firewall, Vulnerability Scanner, and so on. These will be found in the respective configuration elements of the services affected.

Endpoint control general attributes are listed below.

```
<forticlient_configuration>
  <endpoint_control>
    <checksum></checksum>
    <enabled>1</enabled>
    <!--short keepalive timeout in ms-->
    <keepalive_short_timeout>20000</keepalive_short_timeout>
    <!--keepalive timeout in seconds-->
    <keepalive_timeout>1800</keepalive_timeout>
    <custom_ping_server />
    <ping_server></ping_server>
    <offnet_update>1</offnet_update>
    <corporate_id>Enc7fde88aa0ec0b48dc8841525808604007a76fc7f01e8c5
        ce3cd77c8c2c372375e0e45acd6b<corporate_id>
    <user>Encaa0ec0b48d07a76fc7c88415258086040f01e8c5ce3c5e0e45a7fd
        e88d77c8c2c37237cd6b</user>
    <skip_confirmation>0</skip_confirmation>
    <disable_unregister>0</disable_unregister>
    <log_upload_enabled>1</log_upload_enabled>
    <log_upload_freq_hours>24</log_upload_freq_hours>
    <log_upload_freq_days>7</log_upload_freq_days>
    <fgt_logoff_on_fct_shutdown>1</fgt_logoff_on_fct_shutdown>
    <show_bubble_notifications>0</show_bubble_notifications>
    <ignore_all_broadcast>0</ignore_all_broadcast>
    <ignore_broadcasts>0</ignore_broadcasts>
    <conf_recv_time></conf_recv_time>
  </endpoint_control>
</forticlient_configuration>
```

The following table provides endpoint control XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
`<checksum>`	Configuration checksum calculated on and enforced by the FortiGate.	
`<enabled>`	Enable endpoint control.	
`<keepalive_short_timeout>`	Short keepalive timeout in ms.	20000

<keepalive_timeout>	Keepalive timeout in seconds.	1800
<custom_ping_server>	IP address or FQDN.	
<ping_server>	IP address or FQDN.	
<offnet_update>	Enable synchronization of configuration updates from the FortiGate. Boolean value: [0|1]	1
<corporate_id>	Encrypted password required to connect to the FortiGate.	
<user>	Encrypted user name.	
<skip_confirmation>	Do not prompt user before proceeding to complete registration with a FortiGate. Boolean value: [0|1]	0
<disable_unregister>	Prevent standard user from being able to unregister after successfully registering to a FortiGate device. Boolean value: [0|1]	0
<log_upload_enabled>	Upload FortiClient logs to the FortiGate. Boolean value: [0|1]	1
<log_upload_freq_hours>	Upload frequency intervals in hours.	1
<log_upload_freq_days>		
<fgt_logoff_on_fct_shutdown>	Notify FortiGate when FortiClient is shut down. Boolean value: [0|1]	1
<show_bubble_notifications>	Notify the user when new policies are installed. Boolean value: [0|1]	1
<ignore_all_broadcast>	Prevents the client from accepting registration broadcast messages from FortiGates. Boolean value: [0|1]	0
<ignore_broadcasts>	Encrypted list of ignored FortiGates.	
<conf_recv_time>	Time of the most recently received configuration.	

Log elements are non-functional in FortiClient v5.0.0, and v5.0.1. In FortiClient v5.0.2, these elements will be moved to the logging section of the XML configuration, and will be used to control upload frequency.

The following elements affect Endpoint control.

Enable or disable display of advertisements.

```
<forticlient_configuration>
  <system>
    <ui>
      <ads>1</ads>
    </ui>
  </system>
</forticlient_configuration>
```

Enable Antivirus real-time protection.

```
<forticlient_configuration>
  <antivirus>
    <real_time_protection>
      <enabled>1</enabled>
    <real_time_protection>
  </antivirus>
</forticlient_configuration>
```

Other services that may be configured from the FortiGate will usually use the full set of configuration elements available to them, as described in the various sections of this documents. These include the following:

```
<forticlient_configuration>
  <system>
    <update>
    </update>
    <log_settings>
    </log_settings>
  </system>
  <vpn>
  </vpn>
  <firewall>
  </firewall>
  <webfilter>
  </webfilter>
  <vulnerability_scan>
  </vulnerability_scan>
</forticlient_configuration>
```

FortiClient Single Sign-On Mobility Agent

Configuration elements for FortiClient Single Sign-On Mobility Agent are contained in the <fssoma></fssoma> tags.

```
<forticlient_configuration>
  <fssoma>
    <enabled>0</enabled>
    <serveraddress />
    <presharedkey>Enc5ec0701e014e7e36a1c6a53aeba87af13c5e9e49c66210
        98</presharedkey>
  </fssoma>
</forticlient_configuration>
```

The following table provides Single Sign-On XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<enabled>	Enable or disable Single Sign On. Boolean value: [0 | 1]	0
<serveraddress>	FortiAuthenticator IP address or FQDN.	
<presharedkey>	Encrypted or un-encrypted pre-shared key.	

To enable the FortiClient SSO Mobility agent service on the FortiAuthenticator, you must first apply the applicable FortiClient license for FortiAuthenticator. For more information, see the *FortiAuthenticator v2.0 Administration Guide* at http://docs.fortinet.com. For information on purchasing a FortiClient license, please contact your authorized Fortinet reseller.

WAN Optimization

WAN Optimization is configured in the <wan_optimization></wan_optimization> tags.

```
<forticlient_configuration>
  <wan_optimization>
    <enabled>0</enabled>
    <support_http>1</support_http>
    <support_cifs>1</support_cifs>
    <support_mapi>1</support_mapi>
    <support_ftp>1</support_ftp>
    <max_disk_cache_size_mb>512</max_disk_cache_size_mb>
  </wan_optimization>
</forticlient_configuration>
```

The following table provides WAN Optimization XML tags, the description, and the default value (if applicable).

XML Tag	Description	Default Value
<enabled>	Enable or disable WAN Optimization. Boolean value: [0|1]	0
<support_http>	Enable or disable HTTP support. Boolean value: [0|1]	1
<support_cifs>	Enable or disable CIFS support. Boolean value: [0|1]	1
<support_mapi>	Enable or disable MAPI support. Boolean value: [0|1]	1
<support_ftp>	Enable or disable FTP support. Boolean value: [0|1]	1
<max_disk_cache_size_mb>	Maximum disk cache size in MB	512

Web Filtering

Web Filtering XML configurations are contained in <webfilter></webfilter> tags.

There are two main sections:

- General options

  Configuration elements that affect the whole of the web filtering service.
- Profiles

  Defines one or more rules that will be applied to network traffic.

```
<forticlient_configuration>
  <webfilter>
    <https_enabled>1</https_enabled>
    <!--use enable_filter to enable/disable WebFiltering-->
    <enable_filter>1</enable_filter>
    <!--enabled enables/disables the FortiGuard querying service.-->
    <enabled>1</enabled>
    <log_all_urls>0</log_all_urls>
    <block_uncategorised>0</block_uncategorised>
    <white_list_has_priority>0</white_list_has_priority>
    <current_profile>0</current_profile>
    <partial_match_host>0</partial_match_host>
    <max_violations>250</max_violations>
    <max_violations_age>7</max_violations_age>
    <fortiguard>
      <url>fgd1.fortigate.com</url>
      <enabled>1</enabled>
      <block_unrated>0</block_unrated>
```

```
    <rate_ip_addresses>1</rate_ip_addresses>
  </fortiguard>
  <profiles>
    <profile>
      <id>0</id>
      <cate_ver>6</cate_ver>
      <description />
      <name />
      <temp_whitelist_timeout>300</temp_whitelist_timeout>
      <categories>
        <category>
          <id>3
            <!--Hacking (Potentially Liable)-->
          </id>
          <action>deny</action>
        </category>
        <category>
          <id>4
            <!--Illegal or Unethical (Potentially Liable)-->
          </id>
          <action>deny</action>
        </category>
        <category>
          <id>5
            <!--Discrimination (Potentially Liable)-->
          </id>
          <action>deny</action>
        </category>
      </categories>
      <urls>
        <url>
          <address>www.playbpy.com</address>
          <action>deny</action>
        </url>
          <address>www.fortinet.com</address>
          <action>allow</action>
        </url>
      </urls>
  </profile>
  <profile>
    <id>2</id>
    <cate_ver>6</cate_ver>
    <description>deny</description>
    <name>deny</name>
    <temp_whitelist_timeout>300</temp_whitelist_timeout>
    <categories>
      <category>
        <id>26
          <!--Malicious Websites (Security Risk)-->
```

```
            </id>
            <action>deny</action>
          </category>
          <category>
            <id>86
              <!--Spam URLs (Security Risk)-->
            </id>
            <action>deny</action>
          </category>
        </categories>
      </profile>
      </profiles>
    </webfilter>
  </forticlient_configuration>
```

The general options are described first.

The following table provides Web Filtering XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<https_enabled>	Enable or disable Web Filtering on HTTPS traffic. Boolean value: [0|1]	1
<enable_filter>	Enable or disable Web Filtering. Boolean value: [0|1]	1
<enabled>	Enable or disable FortiGuard querying service. Boolean value: [0|1]	1
<log_all_urls>	Record all visited URLs to the log file, both blocked and allowed. Boolean value: [0|1]	0
<block_uncategorised>	Block network traffic that does not match any rules. Boolean value: [0|1]	0
<white_list_has_priority>	If traffic matches both a block and an allow rule, it should be allowed. Boolean value: [0|1]	0
<current_profile>	Currently selected profile ID. (optional)	
<partial_match_host>	A hostname that is a substring of the specified path is treated as a full match. Boolean value: [0|1]	0
<max_violations>	Maximum number of violations stored at any one. A number from 250 to 5000.	5000

<max_violation_age>	Maximum age in days of a violation record before it is culled. A number from 1 to 90.	90
	<fortiguard> elements	
<url>	IP address or FQDN of the FortiGuard server.	fgd1.fortigate.com
<enabled>	Enable or disable use of FortiGuard servers. Boolean value: [0|1]	1
<block_unrated>	Block unrated URLs. Boolean value: [0|1]	0
<rate_ip_addresses>	Rate IP addresses. Boolean value: [0|1]	1

The <profiles> tag may have one or more profiles, defined in the <profile> tag. Each <profile>, in turn, has one or more <category>, <url> and <engine> tags, along with other elements.

The following table provides profile XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	<profile> elements	
<id>	Unique ID. A number to define the profile.	
<cate_ver>	FortiGuard category version used in this profile. A number.	6
<description>	Summary describing this profile.	
<name>	A descriptive name for the profile.	
<temp_whitelist_timeout>	The duration, in seconds, of a bypass that is applied to a page that generated a *warning*, but for which the user selected *continue*.	300
	<profile> <categories> <category> elements	
<id>	Unique ID. A number. The valid set of category IDs is predefined, and is listed in exported configuration files.	
<action>	Action to perform on matching network traffic. One of: [deny | warn | monitor]	
	<profile> <urls> <url> elements	

<address>	URL
<action>	Action to perform on matching network traffic. One of: [allow | deny]

Application Firewall

Application Firewall configuration data is contained in <firewall></firewall> tags.

The set of elements may be grouped into two:

- General options
  Options that apply to the entire firewall activities.
- Profiles
  Defines the applications, and the actions to apply to them.

```
<forticlient_configuration>
  <firewall>
    <enabled>1</enabled>
    <current_profile>0</current_profile>
    <default_action>Pass</default_action>
    <show_bubble_notifications>0</show_bubble_notifications>
    <max_violations>250</max_violations>
    <max_violations_age>7</max_violations_age>
    <profiles>
      <profile>
        <id>0</id>
        <rules>
          <rule>
            <action>Block</action>
            <enabled>1</enabled>
            <application>
              <id>16783</id>
            </application>
        </rule>
          <rule>
            <action>Block</action>
            <enabled>1</enabled>
            <category>
            <id>2</id>
            </category>
          </rule>
        </rules>
      </profile>
      <!--
This is a table of all Application Firewall categories (Id ==>
    Category Name)
-->
    </profiles>
  </firewall>
```

```
</forticlient_configuration>
```

The following table provides Application Firewall XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<enabled>	Enable or disable Application Firewall. Boolean value: [0|1]	1
<current_profile>	Currently selected profile ID.	
<default_action>	Action to enforce on traffic that does not match any of the profiles defined. One of: [block | reset | pass]	pass
<show_bubble_notifications>	Display a bubble message each time an application is blocked for matching a profile. Boolean value: [0|1]	
<max_violations>	Maximum number of violations stored at any one. A number from 250 to 5000	5000
<max_violation_age>	Maximum age in days of a violation record before it is culled. A number from 1 to 90.	90

The <profiles> tag may contain one or more <profile> tags, each of which has a <rules> element. The <rules> element may, itself, have zero or more <rule> tags.

The following filter elements may be used to define applications in a <rule> tag:

```
<category>
<vendor>
<behavior>
<technology>
<protocol>
<application>
<popularity>
```

If the <application> element is present, all other sibling elements (listed above) will be ignored. If it is not, a given application must match all of the provided filters to trigger the rule.

Each of these seven elements is a container for the tag: <ids>, which is a list of the identifiers (numbers) selected for that particular filter. The full <firewall> profile listed at the beginning of this section shows several examples of the use of filters within the <rule> element. Using an <ids> value all will select all matching applications.

The following table provides profile element XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
	<profile> elements	

<id>	Unique ID. A number.	
	<profile> <rules> <rule> elements	
<action>	Action to enforce on traffic that matches this rule. One of: [block | reset | pass]	
<enabled>	Enable or disable this rule. Boolean value: [0 | 1]	1
<category>	Categories of the applications to apply <action> on.	csv list
<vendor>	Vendors of the applications to apply <action> on.	csv list
<behavior>	Behavior of the applications to apply <action> on.	csv list
<technology>	Technologies used by the applications to apply <action> on.	csv list
<protocol>	Protocols used by the applications to apply <action> on.	csv list
<application>	Identifiers (IDs) of the applications to apply <action> on.	csv list
<popularity>	Popularity of the applications to apply <action> on.	csv list

Vulnerability Scan

Configurations for Vulnerability Scan are contained in the <vulnerability_scan></vulnerability_scan> tags.

```
<forticlient_configuration>
  <vulnerability_scan>
    <enabled>1</enabled>
    <scheduled_scans>
      <!-- currently there can only be one scheduled item -->
      <schedule>
        <scan_on_fgt_registration>0</scan_on_fgt_registration>
        <enable_schedule>0</enable_schedule>
        <repeat>0</repeat>
        <type>24</type>
        <day>3</day>
        <time>19:30</time>
      <schedule>
    </scheduled_scans>
  </vulnerability_scan>
</forticlient_configuration>
```

The following table provides Vulnerability Scan XML tags, the description, and the default value (where applicable).

XML Tag	Description	Default Value
<enabled>	Vulnerability Scan is enabled.	

<scheduled_scans> <schedule> elements		
<scan_on_fgt_registration>	Scan system on FortiGate registration. Boolean value: [0|1]	0
<enable_schedule>	Enable or disable schedule. Boolean value: [0|1]	
<repeat>	Frequency of repeats. One of: • 0 daily • 1 weekly • 2 monthly	
<type>	Type of vulnerability scan. One of: • 8 high • 16 critical • 24 high & critical	24
<day>	If <repeat> is set to 0 (daily), <day> is ignored. If <repeat> is set to 1 (weekly), <day> is the day of the week to run scan. One of: • 1 Sunday • 2 Monday • 3 Tuesday • 4 Wednesday • 5 Thursday • 6 Friday • 7 Saturday If <repeat> is set to 2 (monthly), <day> is the day of the month to run a scan. A number from 1 to 31.	The default is the date the policy was installed from the FortiGate.
<time>	Time value in 24 hour clock.	The default is the time the policy was installed from the FortiGate.

Example XML Configuration Files

FortiClient XML configuration

The FortiClient configuration file is user editable. The file uses XML format for easy parsing and validation. The configuration file is inclusive of all client configurations, and references the client certificates.

Design considerations

Input validation

The import function performs basic validation, and writes to log when errors or warnings are found. Default values for omitted items are defined for VPN connections. For other settings omitted values are ignored.

Handling of password fields

When exporting, the password and username fields will be encrypted (prefixed with “Enc”). However, the import function is able to take either the clear text or encrypted format.

Segment of configuration file

It is valid to import the segment of a configuration file. However, the segment should follow the syntax and level defined in this document. For example, this is a valid segment:

```
<?xml version=”1.0” encoding=”utf-8”?>
<forticlient_configuration>
  <VPN>
    <SSLVPN>
      <connections>
        <connection>
          // connection 1
        </connection>
      </connections>
    </SSLVPN>
  </VPN>
</forticlient_configuration>
```

This is not a valid segment:

```
<?xml version=”1.0” encoding=”utf-8”?>
  <connections>
    <connection>
      // connection 1
    </connection>
  </connections>
```

Client certificate

The configuration file will include the client certificate(s) when exported in an encrypted format.

Example FortiClient XML configuration file (Windows)

The following is an example FortiClient XML configuration file. VPN autoconnect and always up are enabled in the configuration.

```
<?xml version="1.0" encoding="UTF-8" ?>
<forticlient_configuration>
    <forticlient_version>5.0.0.161</forticlient_version>
    <version>5.0</version>
    <date>2012/11/15</date>
    <partial_configuration>0</partial_configuration>
    <os_version>windows</os_version>
    <system>
        <ui>
            <ads>1</ads>
            <default_tab>AV</default_tab>
            <flashing_system_tray_icon>1</flashing_system_tray_icon>
            <hide_system_tray_icon>0</hide_system_tray_icon>
            <suppress_admin_prompt>0</suppress_admin_prompt>
            <password>Enc
0b6e0c29624a634bf21abcc4cb992786f45a2e1e1addf22d935a0492b18ed339e5888d
314c98af09308ff4861712d12b9c1bd3ef0ba36670</password>
        </ui>
        <log_settings>
            <level>6</level>
            <!--0=emergency, 1=alert, 2=critical, 3=error, 4=warning,
5=notice, 6=info, 7=debug, -->
            <max_log_size>5120</max_log_size>

<log_events>ipsecvpn,sslvpn,scheduler,update,firewall,av,proxy,shield,
webfilter,endpoint,fssoma,wanacc,configd,vuln</log_events>
            <!--ipsecvpn=ipsec vpn, sslvpn=ssl vpn, firewall=firewall,
av=antivirus, webfilter=webfilter, vuln=vulnerability scan, wanacc=wan
acceleration, fssoma=single sign-on mobility for fortiauthenticator,
scheduler=scheduler, update=update, proxy=fortiproxy,
shield=fortishield, endpoint=endpoint control, configd=configuration,
-->
        </log_settings>
        <proxy>
            <update>0</update>
```

```
            <online_scep>0</online_scep>
            <virus_submission>0</virus_submission>
            <type>http</type>
            <address />
            <port>80</port>
            <username>Enc
6dc3c2c346150a7c3642622e256c6c6310387786779be239</username>
            <password>Enc
a0fbf2a976157c9e4221d9afcce0b280d9f266eb55421124</password>
        </proxy>
        <update>
            <use_custom_server>0</use_custom_server>
            <server />
            <port />
            <timeout>60</timeout>
            <failoverport>8000</failoverport>
            <fail_over_to_fdn>1</fail_over_to_fdn>
            <update_action>notify_only</update_action>
            <scheduled_update>
                <enabled>1</enabled>
                <type>interval</type>
                <daily_at>03:00</daily_at>
                <update_interval_in_hours>3</update_interval_in_hours>
            </scheduled_update>
        </update>
        <fortiproxy>
            <enabled>1</enabled>
            <enable_https_proxy>1</enable_https_proxy>
            <http_timeout>60</http_timeout>
            <client_comforting>
                <pop3_client>1</pop3_client>
                <pop3_server>1</pop3_server>
                <smtp>1</smtp>
            </client_comforting>
            <selftest>
                <enabled>0</enabled>
                <last_port>65535</last_port>
                <notify>0</notify>
            </selftest>
```

```
        </fortiproxy>
    </system>
    <vpn>
        <options>
            <current_connection_name>psk_90_1</current_connection_name>
            <current_connection_type>ipsec</current_connection_type>
            <save_password>0</save_password>
            <minimize_window_on_connect>1</minimize_window_on_connect>
            <show_vpn_before_logon>1</show_vpn_before_logon>
            <use_windows_credentials>1</use_windows_credentials>
            <show_negotiation_wnd>0</show_negotiation_wnd>
        </options>
        <sslvpn>
            <options>
                <enabled>1</enabled>
            </options>
            <connections>
                <connection>
                    <name>ssl_90_1</name>

<server>10.10.90.1;ssldemo.fortinet.com;172.17.61.143:443</server>
                    <username>Enc
1f62aab909838c5b3871fe47fe92b1476bc964751d50ba91ba3d88d6</username>
                    <password />
                    <certificate />

<warn_invalid_server_certificate>0</warn_invalid_server_certificate>
                    <prompt_certificate>0</prompt_certificate>
                    <prompt_username>1</prompt_username>
                    <on_connect>
                        <script>
                            <os>windows</os>
                            <script>
                              <!--Write MS DOS batch script inside the
CDATA tag below.
One line per command, just like a regular batch script file.
The script will be executed in the context of the user that connected
the tunnel.
```

```
Wherever you write #username# in your script, it will be automatically
substituted with the xauth username of the user that connected the
tunnel.

Wherever you write #password# in your script, it will be automatically
substituted with the xauth password of the user that connected the
tunnel.

Remember to check your xml file before deploying to ensure that
carriage returns/line feeds are present.

-->

                                <script>

                                    <![CDATA[]]>

</script>

                            </script>

                        </script>

                    </on_connect>

                    <on_disconnect>

                        <script>

                            <os>windows</os>

                            <script>

                              <!--Write MS DOS batch script inside the
CDATA tag below.

One line per command, just like a regular batch script file.

The script will be executed in the context of the user that connected
the tunnel.

Wherever you write #username# in your script, it will be automatically
substituted with the xauth username of the user that connected the
tunnel.

Wherever you write #password# in your script, it will be automatically
substituted with the xauth password of the user that connected the
tunnel.

Remember to check your xml file before deploying to ensure that
carriage returns/line feeds are present.

-->

                                <script>

                                    <![CDATA[]]>

</script>

                            </script>

                        </script>

                    </on_disconnect>

                </connection>

            </connections>

        </sslvpn>
```

```
        <ipsecvpn>
            <options>
                <enabled>1</enabled>
                <beep_if_error>0</beep_if_error>
                <usewincert>1</usewincert>
                <uselocalcert>0</uselocalcert>
                <usesmcardcert>1</usesmcardcert>
            </options>
            <connections>
                <connection>
                    <name>psk_90_1</name>
                    <type>manual</type>
                    <ike_settings>
                        <prompt_certificate>0</prompt_certificate>

<server>10.10.90.1;ipsecdemo.fortinet.com;172.17.61.143</server>
                        <authentication_method>Preshared
Key</authentication_method>
                        <auth_key>Enc
159cf2d1ef8e3a88af3eda71307fa7262d4a630c9f59e9ac7c4e480055dc</auth_key
>
                        <mode>aggressive</mode>
                        <dhgroup>5;</dhgroup>
                        <key_life>28800</key_life>
                        <localid />
                        <nat_traversal>1</nat_traversal>
                        <mode_config>1</mode_config>
                        <enable_local_lan>0</enable_local_lan>
                        <nat_alive_freq>5</nat_alive_freq>
                        <dpd>1</dpd>
                        <dpd_retry_count>3</dpd_retry_count>
                        <dpd_retry_interval>5</dpd_retry_interval>

<enable_ike_fragmentation>0</enable_ike_fragmentation>
                        <RedundantSortMethod>1</RedundantSortMethod>
                        <xauth>
                            <enabled>1</enabled>
                            <prompt_username>1</prompt_username>
                            <username>Enc
9aaa9c8b38cfc0a8ecac0eaa252eb7acbc723305b5ed5a768147f8fb</username>
```

```
            <password />
        </xauth>
        <proposals>
            <proposal>3DES|MD5</proposal>
            <proposal>3DES|SHA1</proposal>
            <proposal>AES128|MD5</proposal>
            <proposal>AES128|SHA1</proposal>
        </proposals>
    </ike_settings>
    <ipsec_settings>
        <remote_networks>
            <network>
                <addr>0.0.0.0</addr>
                <mask>0.0.0.0</mask>
            </network>
        </remote_networks>
        <dhgroup>5</dhgroup>
        <key_life_type>seconds</key_life_type>
        <key_life_seconds>1800</key_life_seconds>
        <key_life_Kbytes>5120</key_life_Kbytes>
        <replay_detection>1</replay_detection>
        <pfs>1</pfs>
        <autokey_keep_alive>0</autokey_keep_alive>
        <use_vip>1</use_vip>
        <virtualip>
            <type>modeconfig</type>
            <ip>0.0.0.0</ip>
            <mask>0.0.0.0</mask>
            <dnsserver>0.0.0.0</dnsserver>
            <winserver>0.0.0.0</winserver>
        </virtualip>
        <proposals>
            <proposal>3DES|MD5</proposal>
            <proposal>3DES|SHA1</proposal>
            <proposal>AES128|MD5</proposal>
            <proposal>AES128|SHA1</proposal>
        </proposals>
    </ipsec_settings>
```

```
                    <on_connect>
                        <script>
                            <os>windows</os>
                            <script>
                              <!--Write MS DOS batch script inside the
CDATA tag below.
One line per command, just like a regular batch script file.
The script will be executed in the context of the user that connected
the tunnel.
Wherever you write #username# in your script, it will be automatically
substituted with the xauth username of the user that connected the
tunnel.
Wherever you write #password# in your script, it will be automatically
substituted with the xauth password of the user that connected the
tunnel.
Remember to check your xml file before deploying to ensure that
carriage returns/line feeds are present.
-->
                                <script>
                                    <![CDATA[]]>
</script>
                            </script>
                        </script>
                    </on_connect>
                    <on_disconnect>
                        <script>
                            <os>windows</os>
                            <script>
                              <!--Write MS DOS batch script inside the
CDATA tag below.
One line per command, just like a regular batch script file.
The script will be executed in the context of the user that connected
the tunnel.
Wherever you write #username# in your script, it will be automatically
substituted with the xauth username of the user that connected the
tunnel.
Wherever you write #password# in your script, it will be automatically
substituted with the xauth password of the user that connected the
tunnel.
Remember to check your xml file before deploying to ensure that
carriage returns/line feeds are present.
-->
                                <script>
```

```
                                        <![CDATA[]]>
</script>
                                </script>
                            </script>
                        </on_disconnect>
                    </connection>
                </connections>
            </ipsecvpn>
        </vpn>
        <certificates>
            <crl>
                <ocsp />
            </crl>
        </certificates>
        <antivirus>

<signature_expired_notification>0</signature_expired_notification>
            <scan_on_insertion>0</scan_on_insertion>
            <shell_integration>1</shell_integration>
            <antirootkit>4294967295</antirootkit>
            <fortiguard_analytics>0</fortiguard_analytics>
            <scheduled_scans>
                <!--zero, one or more of the following child nodes-->
                <full>
                    <enabled>1</enabled>
                    <repeat>1</repeat>
                    <days>2</days>
                    <time>18:30</time>
                    <removable_media>1</removable_media>
                    <network_drives>0</network_drives>
                    <priority>0</priority>
                </full>
            </scheduled_scans>
            <on_demand_scanning>
                <on_virus_found>0</on_virus_found>
                <pause_on_battery_power>1</pause_on_battery_power>
                <automatic_virus_submission>
                    <enabled>0</enabled>
```

```
                <smtp_server>fortinetvirussubmit.com</smtp_server>
                <username />
                <password>Enc
c9d988206b3fe7b8dbbf887608b24f0b92c0ba1a55118120</password>
            </automatic_virus_submission>
            <compressed_files>
                <scan>1</scan>
                <maxsize>0</maxsize>
            </compressed_files>
            <riskware>
                <enabled>1</enabled>
            </riskware>
            <adware>
                <enabled>1</enabled>
            </adware>
            <heuristic_scanning>1</heuristic_scanning>
            <scan_file_types>
                <all_files>1</all_files>
                <file_types>

<extensions>.386,.ACE,.ACM,.ACV,.ACX,.ADT,.APP,.ASD,.ASP,.ASX,.AVB,.AX
,.AX2,.BAT,.BIN,.BTM,.CDR,.CFM,.CHM,.CLA,.CLASS,.CMD,.CNN,.COM,.CPL,.C
PT,.CPY,.CSC,.CSH,.CSS,.DEV,.DLL,.DOC,.DOT,.DRV,.DVB,.DWG,.EML,.EXE,.F
ON,.GMS,.GVB,.HLP,.HTA,.HTM,.HTML,.HTT,.HTW,.HTX,.HXS,.INF,.INI,.JPG,.
JS,.JTD,.KSE,.LGP,.LIB,.LNK,.MDB,.MHT,.MHTM,.MHTML,.MOD,.MPD,.MPP,.MPT
,.MRC,.OCX,.PIF,.PL,.PLG,.PM,.PNF,.PNP,.POT,.PPA,.PPS,.PPT,.PRC,.PWZ,.
QLB,.QPW,.REG,.RTF,.SBF,.SCR,.SCT,.SH,.SHB,.SHS,.SHT,.SHTML,.SHW,.SIS,
.SMM,.SWF,.SYS,.TD0,.TLB,.TSK,.TSP,.TT6,.VBA,.VBE,.VBS,.VBX,.VOM,.VSD,
.VSS,.VST,.VWP,.VXD,.VXE,.WBK,.WBT,.WIZ,.WK,.WML,.WPC,.WPD,.WSC,.WSF,.
WSH,.XLS,.XML,.XTP</extensions>

<include_files_with_no_extension>0</include_files_with_no_extension>
                </file_types>
            </scan_file_types>
            <exclusions>
                <!--the element below can exist 0-n times-->
                <!--the element below can exist 0-n times-->
                <file_types>
                    <extensions />
                </file_types>
            </exclusions>
        </on_demand_scanning>
```

```
            <real_time_protection>
                <enabled>1</enabled>
                <when>0</when>
                <on_virus_found>5</on_virus_found>
                <popup_alerts>1</popup_alerts>
                <popup_registry_alerts>0</popup_registry_alerts>
                <compressed_files>
                    <scan>1</scan>
                    <maxsize>2</maxsize>
                </compressed_files>
                <riskware>
                    <enabled>1</enabled>
                </riskware>
                <adware>
                    <enabled>1</enabled>
                </adware>
                <heuristic_scanning>
                    <enabled>0</enabled>
                    <action>3</action>
                </heuristic_scanning>
                <scan_file_types>
                    <all_files>1</all_files>
                    <file_types>

<extensions>.386,.ACE,.ACM,.ACV,.ACX,.ADT,.APP,.ASD,.ASP,.ASX,.AVB,.AX
,.AX2,.BAT,.BIN,.BTM,.CDR,.CFM,.CHM,.CLA,.CLASS,.CMD,.CNN,.COM,.CPL,.C
PT,.CPY,.CSC,.CSH,.CSS,.DEV,.DLL,.DOC,.DOT,.DRV,.DVB,.DWG,.EML,.EXE,.F
ON,.GMS,.GVB,.HLP,.HTA,.HTM,.HTML,.HTT,.HTW,.HTX,.HXS,.INF,.INI,.JPG,.
JS,.JTD,.KSE,.LGP,.LIB,.LNK,.MDB,.MHT,.MHTM,.MHTML,.MOD,.MPD,.MPP,.MPT
,.MRC,.OCX,.PIF,.PL,.PLG,.PM,.PNF,.PNP,.POT,.PPA,.PPS,.PPT,.PRC,.PWZ,.
QLB,.QPW,.REG,.RTF,.SBF,.SCR,.SCT,.SH,.SHB,.SHS,.SHT,.SHTML,.SHW,.SIS,
.SMM,.SWF,.SYS,.TD0,.TLB,.TSK,.TSP,.TT6,.VBA,.VBE,.VBS,.VBX,.VOM,.VSD,
.VSS,.VST,.VWP,.VXD,.VXE,.WBK,.WBT,.WIZ,.WK,.WML,.WPC,.WPD,.WSC,.WSF,.
WSH,.XLS,.XML,.XTP</extensions>

<include_files_with_no_extension>0</include_files_with_no_extension>
                    </file_types>
                </scan_file_types>
                <exclusions>
                    <!--the element below can exist 0-n times-->
                    <!--the element below can exist 0-n times-->
                    <file_types>
```

```
                    <extensions />
                </file_types>
            </exclusions>
        </real_time_protection>
        <email>
            <smtp>1</smtp>
            <pop3>1</pop3>
            <outlook>1</outlook>
            <wormdetection>
                <enabled>0</enabled>
                <action>0</action>
            </wormdetection>
            <heuristic_scanning>
                <enabled>0</enabled>
                <action>0</action>
            </heuristic_scanning>
        </email>
        <quarantine>
            <cullage>100</cullage>
        </quarantine>
        <server>
            <exchange>
                <integrate>0</integrate>
                <action>0</action>

<excludefilesystemfromscanning>0</excludefilesystemfromscanning>

<excludefileextensionsfromscanning>0</excludefileextensionsfromscanning>
            </exchange>
            <sqlserver>

<excludefilesystemfromscanning>0</excludefilesystemfromscanning>

<excludefileextensionsfromscanning>0</excludefileextensionsfromscanning>
            </sqlserver>
        </server>
    </antivirus>
    <endpoint_control>
```

```
            <enabled>1</enabled>
            <!--short keepalive timeout in ms-->
            <keepalive_short_timeout>20000</keepalive_short_timeout>
            <!--keepalive timeout in seconds-->
            <keepalive_timeout>1800</keepalive_timeout>
            <custom_ping_server />
            <offnet_update>1</offnet_update>
            <user>Enc
bc91188bb060e59641ce75b84b0f319949f191b90b2c99565c8c</user>
            <disable_unregister>0</disable_unregister>
            <log_upload_enabled>0</log_upload_enabled>
            <log_upload_freq_hours>1</log_upload_freq_hours>
            <fgt_logoff_on_fct_shutdown>1</fgt_logoff_on_fct_shutdown>
            <show_bubble_notifications>0</show_bubble_notifications>
            <ignore_all_broadcast>0</ignore_all_broadcast>
        </endpoint_control>
        <fssoma>
            <enabled>0</enabled>
            <serveraddress />
            <presharedkey>Enc
099d3d583a9748b62dd3a77a9344aa4ee8bcd6da1372edf8</presharedkey>
        </fssoma>
        <wan_optimization>
            <enabled>0</enabled>
            <support_http>1</support_http>
            <support_cifs>1</support_cifs>
            <support_mapi>1</support_mapi>
            <support_ftp>1</support_ftp>
            <max_disk_cache_size_mb>512</max_disk_cache_size_mb>
        </wan_optimization>
        <webfilter>
            <https_enabled>1</https_enabled>
            <!--use enable_filter to enable/disable WebFiltering-->
            <enable_filter>1</enable_filter>
           <!--enabled enables/disables the FortiGuard querying service.-->
            <enabled>1</enabled>
            <log_all_urls>0</log_all_urls>
            <white_list_has_priority>0</white_list_has_priority>
            <current_profile>0</current_profile>
```

```
            <partial_match_host>0</partial_match_host>
            <disable_when_managed>0</disable_when_managed>
            <max_violations>5000</max_violations>
            <max_violation_age>90</max_violation_age>
            <fortiguard>
                <enabled>1</enabled>
                <rate_ip_addresses>0</rate_ip_addresses>
            </fortiguard>
            <profiles>
                <profile>
                    <id>0</id>
                    <cate_ver>6</cate_ver>
                    <description />
                    <name />
                    <temp_whitelist_timeout>300</temp_whitelist_timeout>
                    <categories>
                        <category>
                            <id>1
                                <!--Drug Abuse (Potentially Liable)-->
                            </id>
                            <action>deny</action>
                        </category>
                        <category>
                            <id>2
                                <!--Alternative Beliefs (Adult/Mature
Content)-->
                            </id>
                            <action>deny</action>
                        </category>
                        <category>
                            <id>3
                                <!--Hacking (Potentially Liable)-->
                            </id>
                            <action>deny</action>
                        </category>
                        <category>
                            <id>4
                                <!--Illegal or Unethical (Potentially
Liable)-->
```

```
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>5
                        <!--Discrimination (Potentially Liable)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>6
                      <!--Explicit Violence (Potentially Liable)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>7
                        <!--Abortion (Adult/Mature Content)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>8
                        <!--Other Adult Materials (Adult/Mature
Content)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>9
                        <!--Advocacy Organizations (Adult/Mature
Content)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>11
                        <!--Gambling (Adult/Mature Content)-->
                    </id>
```

```
                    <action>deny</action>
                </category>
                <category>
                    <id>12
                       <!--Extremist Groups (Potentially Liable)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>13
                        <!--Nudity and Risque (Adult/Mature
Content)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>14
                        <!--Pornography (Adult/Mature Content)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>15
                        <!--Dating (Adult/Mature Content)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>16
                      <!--Weapons (Sales) (Adult/Mature Content)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>26
                        <!--Malicious Websites (Security Risk)-->
                    </id>
                    <action>deny</action>
```

```
</category>
<category>
    <id>57
        <!--Marijuana (Adult/Mature Content)-->
    </id>
    <action>deny</action>
</category>
<category>
    <id>59
        <!--Proxy Avoidance (Potentially Liable)-->
    </id>
    <action>deny</action>
</category>
<category>
    <id>61
        <!--Phishing (Security Risk)-->
    </id>
    <action>deny</action>
</category>
<category>
    <id>62
        <!--Plagiarism (Potentially Liable)-->
    </id>
    <action>deny</action>
</category>
<category>
    <id>64
        <!--Alcohol (Adult/Mature Content)-->
    </id>
    <action>deny</action>
</category>
<category>
    <id>65
        <!--Tobacco (Adult/Mature Content)-->
    </id>
    <action>deny</action>
</category>
<category>
```

```
                    <id>83
                        <!--Child Abuse (Potentially Liable)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>86
                        <!--Spam URLs (Security Risk)-->
                    </id>
                    <action>deny</action>
                </category>
            </categories>
        </profile>
        <profile>
            <id>2</id>
            <cate_ver>6</cate_ver>
            <description>deny</description>
            <name>deny</name>
            <temp_whitelist_timeout>300</temp_whitelist_timeout>
            <categories>
                <category>
                    <id>26
                        <!--Malicious Websites (Security Risk)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>61
                        <!--Phishing (Security Risk)-->
                    </id>
                    <action>deny</action>
                </category>
                <category>
                    <id>86
                        <!--Spam URLs (Security Risk)-->
                    </id>
                    <action>deny</action>
                </category>
```

```
                </categories>
            </profile>
            <!--
This is a table of all Web Filter categories (Id ==> Category Name)
0 ==> Unrated
1 ==> Drug Abuse
2 ==> Alternative Beliefs
3 ==> Hacking
4 ==> Illegal or Unethical
5 ==> Discrimination
6 ==> Explicit Violence
7 ==> Abortion
8 ==> Other Adult Materials
9 ==> Advocacy Organizations
11 ==> Gambling
12 ==> Extremist Groups
13 ==> Nudity and Risque
14 ==> Pornography
15 ==> Dating
16 ==> Weapons (Sales)
17 ==> Advertising
18 ==> Brokerage and Trading
19 ==> Freeware and Software Downloads
20 ==> Games
23 ==> Web-based Email
24 ==> File Sharing and Storage
25 ==> Streaming Media and Download
26 ==> Malicious Websites
28 ==> Entertainment
29 ==> Arts and Culture
30 ==> Education
31 ==> Finance and Banking
33 ==> Health and Wellness
34 ==> Job Search
35 ==> Medicine
36 ==> News and Media
37 ==> Social Networking
38 ==> Political Organizations
```

```
39 ==> Reference
40 ==> Global Religion
41 ==> Search Engines and Portals
42 ==> Shopping and Auction
43 ==> General Organizations
44 ==> Society and Lifestyles
46 ==> Sports
47 ==> Travel
48 ==> Personal Vehicles
49 ==> Business
50 ==> Information and Computer Security
51 ==> Government and Legal Organizations
52 ==> Information Technology
53 ==> Armed Forces
54 ==> Dynamic Content
55 ==> Meaningless Content
56 ==> Web Hosting
57 ==> Marijuana
58 ==> Folklore
59 ==> Proxy Avoidance
61 ==> Phishing
62 ==> Plagiarism
63 ==> Sex Education
64 ==> Alcohol
65 ==> Tobacco
66 ==> Lingerie and Swimsuit
67 ==> Sports Hunting and War Games
68 ==> Web Chat
69 ==> Instant Messaging
70 ==> Newsgroups and Message Boards
71 ==> Digital Postcards
72 ==> Peer-to-peer File Sharing
75 ==> Internet Radio and TV
76 ==> Internet Telephony
77 ==> Child Education
78 ==> Real Estate
79 ==> Restaurant and Dining
80 ==> Personal Websites and Blogs
```

```
81 ==> Secure Websites
82 ==> Content Servers
83 ==> Child Abuse
84 ==> Web-based Applications
85 ==> Domain Parking
86 ==> Spam URLs
87 ==> Personal Privacy
-->
        </profiles>
    </webfilter>
    <firewall>
        <enabled>1</enabled>
        <current_profile>0</current_profile>
        <default_action>Pass</default_action>
        <show_bubble_notifications>0</show_bubble_notifications>
        <max_violations>5000</max_violations>
        <max_violation_age>90</max_violation_age>
        <profiles>
            <profile>
                <id>0</id>
                <rules>
                    <rule>
                        <action>Block</action>
                        <enabled>1</enabled>
                        <category>
                            <id>19</id>
                        </category>
                    </rule>
                </rules>
            </profile>
            <!--
This is a table of all Application Firewall categories (Id ==> Category
Name)
-->
        </profiles>
    </firewall>
    <vulnerability_scan>
        <enabled>1</enabled>
```

```
        <scheduled_scans></scheduled_scans>
    </vulnerability_scan>
</forticlient_configuration>
```

Example FortiClient XML configuration file (Mac OS X)

The following is an example FortiClient XML configuration file. VPN autoconnect and always up are enabled in the configuration.

```
<?xml version="1.0" encoding="UTF-8"?>
<forticlient_configuration>
    <forticlient_version>5.0.0.0068</forticlient_version>
    <version>5.0</version>
    <date>2012-11-1</date>
    <os_version>MacOSX</os_version>
    <partial_configuration>0</partial_configuration>
    <system>
        <log_settings>
            <level>1</level>
            <max_log_size>10000000</max_log_size>

<log_events>ipsecvpn,sslvpn,webfilter,update,av,firewall</log_events>
        </log_settings>
        <proxy>
            <address></address>
            <port></port>
            <username></username>
            <password></password>
            <update></update>
        </proxy>
        <update>
            <server></server>
            <port></port>
            <update_action>notify_only</update_action>
            <scheduled_update>
                <enabled>1</enabled>
                <type>interval</type>
                <update_interval_in_hours>3</update_interval_in_hours>
            </scheduled_update>
        </update>
        <ui>
            <password>Enc
420d2ee65abded897a69c50f4995397969f1c1f949055d8e51</password>
            <default_tab>WF</default_tab>
            <culture_code></culture_code>
```

```
        </ui>
    </system>
    <vpn>
        <options>
            <autoconnect_tunnel>ssl 198 no cert</autoconnect_tunnel>
        </options>
        <ipsecvpn>
            <options>
                <enabled>1</enabled>
            </options>
            <connections>
                <connection>
                    <name>ipsec</name>
                    <type>manual</type>
                    <ike_settings>
                        <prompt_certificate>0</prompt_certificate>
                        <description></description>
                        <server>172.17.61.166</server>
                        <authentication_method>Preshared
Key</authentication_method>
                        <auth_key>Enc
420d2ee65abded897a69c50f49950859b45c780adb269f3aa69aaa6690d2984032</au
th_key>
                        <mode>aggressive</mode>
                        <dhgroup>5</dhgroup>
                        <key_life>28800</key_life>
                        <localid></localid>
                        <nat_traversal>1</nat_traversal>
                        <mode_config>1</mode_config>
                        <dpd>1</dpd>
                        <xauth>
                            <enabled>1</enabled>
                            <prompt_username>0</prompt_username>
                            <username>Enc
420d2ee65abded897a69c50f49954d0df619498b1925dd2d993abf54be</username>
                            <password>Enc
420d2ee65abded897a69c50f4995397969f1c1f949055d8e51</password>
                        </xauth>
                        <proposals>
                            <proposal>3des|md5</proposal>
```

```
            <proposal>3des|sha1</proposal>
            <proposal>aes128|md5</proposal>
            <proposal>aes128|sha1</proposal>
            <proposal>aes256|md5</proposal>
            <proposal>aes256|sha1</proposal>
            <proposal>aes|md5</proposal>
            <proposal>aes|sha1</proposal>
            <proposal>des|md5</proposal>
            <proposal>des|sha1</proposal>
        </proposals>
    </ike_settings>
    <ipsec_settings>
        <remote_networks></remote_networks>
        <dhgroup>5</dhgroup>
        <key_life_type>seconds</key_life_type>
        <key_life_seconds>1800</key_life_seconds>
        <pfs></pfs>
        <use_vip>1</use_vip>
        <virtualip>
            <type>modeconfig</type>
            <ip></ip>
            <mask></mask>
            <dnsserver></dnsserver>
        </virtualip>
        <proposals></proposals>
    </ipsec_settings>
    <on_connect>
        <script>
            <os>mac</os>
            <script></script>
        </script>
    </on_connect>
    <on_disconnect>
        <script>
            <os>mac</os>
            <script></script>
        </script>
    </on_disconnect>
```

```
                    <keep_running>0</keep_running>
                </connection>
            </connections>
        </ipsecvpn>
        <sslvpn>
            <options>
                <enabled>1</enabled>
            </options>
            <connections>
                <connection>
                    <name>ssl 198 no cert</name>
                    <description></description>
                    <server>172.17.61.198:443</server>
                    <username>Enc
420d2ee65abded897a69c50f49954d0df619498b1925dd2d993abf54be</username>
                    <password>Enc
420d2ee65abded897a69c50f49950859b45c780aea0e9804dac646c9f6c4b4</passwo
rd>
                    <certificate>Enc
420d2ee65abded897a69c50f4995397969f1c1f949055d8e51</certificate>

<warn_invalid_server_certificate>1</warn_invalid_server_certificate>
                    <prompt_certificate>0</prompt_certificate>
                    <prompt_username>0</prompt_username>
                    <on_connect>
                        <script>
                            <os>mac</os>
                            <script>/bin/mkdir /Volumes/installers
/sbin/ping -c 4 192.168.1.147 > /Users/admin/Desktop/dropbox/p.txt
/sbin/mount -t smbfs //qa:111111@192.168.1.147/installers
/Volumes/installers/ > /Users/admin/Desktop/dropbox/m.txt
/bin/mkdir /Users/admin/Desktop/dropbox/dir
/bin/cp /Volumes/installers/*.log
/Users/admin/Desktop/dropbox/dir/.</script>
                        </script>
                    </on_connect>
                    <on_disconnect>
                        <script>
                            <os>mac</os>
                            <script>/sbin/umount /Volumes/installers
```

```
/bin/rm -fr /Users/admin/Desktop/dropbox/*</script>
                        </script>
                    </on_disconnect>
                    <keep_running>1</keep_running>
                </connection>
            </connections>
        </sslvpn>
    </vpn>
    <endpoint_control>
        <enable_enforcement></enable_enforcement>
        <enabled>1</enabled>
        <keepalive_short_timeout>300</keepalive_short_timeout>
        <collect_app_statistics></collect_app_statistics>
        <fgt_name></fgt_name>
        <fgt_sn>Enc
420d2ee65abded897a69c50f49950f2bbc557e09a920aedd9848f9a1bf295db649e287
69dcb0e8bc1abcede99d7628b51ef58f78479e0015a887a19cfa268d8b28fac302cc6e
26</fgt_sn>
        <checksum></checksum>
        <corporate_id>Enc
420d2ee65abded897a69c50f49950859b45c780adb26a4adef44f4afba5d2bc649e483
68a4b29cbf1fcfecec9e0726cd6d828f7a4b9e052c985f2ad628a3f8305099</corpor
ate_id>
        <ping_server>:0</ping_server>
        <custom_ping_server>:0</custom_ping_server>
        <log_upload_enabled>1</log_upload_enabled>
        <log_upload_freq_hours>1</log_upload_freq_hours>
        <conf_recv_time>0</conf_recv_time>
        <fgt_logoff_on_fct_shutdown>1</fgt_logoff_on_fct_shutdown>
        <offnet_update>1</offnet_update>
        <ignore_all_broadcast>1</ignore_all_broadcast>
        <ignore_broadcasts></ignore_broadcasts>
    </endpoint_control>
    <webfilter>
        <enable_filter>1</enable_filter>
        <disable_when_managed>0</disable_when_managed>
        <enabled>1</enabled>
        <current_profile>1000</current_profile>
        <log_all_urls>0</log_all_urls>
        <white_list_has_priority>0</white_list_has_priority>
```

```
<partial_match_host>0</partial_match_host>
<fortiguard>
    <enabled>0</enabled>
    <rate_ip_addresses>0</rate_ip_addresses>
</fortiguard>
<show_bubble_notifications>0</show_bubble_notifications>
<profiles>
    <profile>
        <id>0</id>
        <display_name>Default Profile</display_name>
        <description></description>
        <cate_ver>0</cate_ver>
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            </category>
            <category>
                <id>2</id>
                <action>deny</action>
            </category>
            <category>
                <id>3</id>
                <action>deny</action>
            </category>
            <category>
                <id>4</id>
                <action>deny</action>
            </category>
            <category>
                <id>5</id>
                <action>deny</action>
            </category>
            <category>
                <id>6</id>
                <action>deny</action>
            </category>
            <category>
```

```
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        <action>deny</action>
    </category>
    <category>
        <id>8</id>
        <action>deny</action>
    </category>
    <category>
        <id>9</id>
        <action>deny</action>
    </category>
    <category>
        <id>11</id>
        <action>deny</action>
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        <action>deny</action>
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        <action>deny</action>
    </category>
    <category>
        <id>16</id>
        <action>deny</action>
    </category>
    <category>
        <id>26</id>
        <action>deny</action>
```

```
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                <action>deny</action>
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                <action>deny</action>
            </category>
            <category>
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            </category>
            <category>
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                <action>deny</action>
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                <action>deny</action>
            </category>
            <category>
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                <action>deny</action>
            </category>
            <category>
                <id>83</id>
                <action>deny</action>
            </category>
            <category>
                <id>86</id>
                <action>deny</action>
            </category>
        </categories>
```

```
        <urls></urls>
    </profile>
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        <display_name>1000</display_name>
        <description></description>
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                <id>2</id>
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            <category>
                <id>8</id>
                <action>deny</action>
            </category>
            <category>
                <id>9</id>
                <action>deny</action>
            </category>
            <category>
                <id>11</id>
                <action>deny</action>
            </category>
            <category>
                <id>13</id>
                <action>deny</action>
            </category>
            <category>
                <id>14</id>
                <action>deny</action>
            </category>
            <category>
                <id>15</id>
```

```
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    </category>
    <category>
        <id>16</id>
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    <category>
        <id>19</id>
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    <category>
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        <action>deny</action>
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        <id>30</id>
        <action>deny</action>
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        <id>61</id>
        <action>deny</action>
    </category>
    <category>
        <id>63</id>
        <action>deny</action>
    </category>
```

```
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                        <id>64</id>
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                    </category>
                    <category>
                        <id>65</id>
                        <action>deny</action>
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                        <action>deny</action>
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                        <action>deny</action>
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                        <id>86</id>
                        <action>deny</action>
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            </profile>
        </profiles>
    </webfilter>
    <firewall>
```

```
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<show_bubble_notifications>1</show_bubble_notifications>
<current_profile>1000</current_profile>
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    <profile>
        <id>0</id>
        <rules>
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                <id></id>
                <filter>
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                    <vendor></vendor>
                    <behavior></behavior>
                    <technology></technology>
                    <protocol></protocol>
                    <application></application>
                    <popularity></popularity>
                </filter>
                <action>block</action>
                <enabled>1</enabled>
            </rule>
            <rule>
                <id></id>
                <filter>
                    <category>6</category>
                    <vendor></vendor>
                    <behavior></behavior>
                    <technology></technology>
                    <protocol></protocol>
                    <application></application>
                    <popularity></popularity>
                </filter>
                <action>block</action>
                <enabled>1</enabled>
            </rule>
            <rule>
                <id></id>
                <filter>
```

```
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                <vendor></vendor>
                <behavior></behavior>
                <technology></technology>
                <protocol></protocol>
                <application></application>
                <popularity></popularity>
            </filter>
            <action>block</action>
            <enabled>1</enabled>
        </rule>
        <rule>
            <id></id>
            <filter>
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                <vendor></vendor>
                <behavior></behavior>
                <technology></technology>
                <protocol></protocol>
                <application></application>
                <popularity></popularity>
            </filter>
            <action>block</action>
            <enabled>1</enabled>
        </rule>
        <rule>
            <id></id>
            <filter>
                <category>18</category>
                <vendor></vendor>
                <behavior></behavior>
                <technology></technology>
                <protocol></protocol>
                <application></application>
                <popularity></popularity>
            </filter>
            <action>block</action>
            <enabled>1</enabled>
```

```
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            <rule>
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                <filter>
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                    <vendor></vendor>
                    <behavior></behavior>
                    <technology></technology>
                    <protocol></protocol>
                    <application></application>
                    <popularity></popularity>
                </filter>
                <action>block</action>
                <enabled>1</enabled>
            </rule>
            <rule>
                <id></id>
                <filter>
                    <category>20</category>
                    <vendor></vendor>
                    <behavior></behavior>
                    <technology></technology>
                    <protocol></protocol>
                    <application></application>
                    <popularity></popularity>
                </filter>
                <action>block</action>
                <enabled>1</enabled>
            </rule>
        </rules>
    </profile>
    <profile>
        <id>1000</id>
        <rules>
            <rule>
                <id></id>
                <filter>
                    <category>2</category>
```

```
            <vendor>All</vendor>
            <behavior>All</behavior>
            <technology>All</technology>
            <protocol>All</protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>5</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>19</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
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        <action>block</action>
        <enabled>1</enabled>
    </rule>
```

```
<rule>
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    <filter>
        <category>21</category>
        <vendor></vendor>
        <behavior></behavior>
        <technology></technology>
        <protocol></protocol>
        <application></application>
        <popularity></popularity>
    </filter>
    <action>block</action>
    <enabled>1</enabled>
</rule>
<rule>
    <id></id>
    <filter>
        <category>24</category>
        <vendor></vendor>
        <behavior></behavior>
        <technology></technology>
        <protocol></protocol>
        <application></application>
        <popularity></popularity>
    </filter>
    <action>block</action>
    <enabled>1</enabled>
</rule>
<rule>
    <id></id>
    <filter>
        <category>8</category>
        <vendor></vendor>
        <behavior></behavior>
        <technology></technology>
        <protocol></protocol>
        <application></application>
        <popularity></popularity>
```

```
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>12</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>1</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>15</category>
            <vendor></vendor>
            <behavior></behavior>
```

```
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>6</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>7</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
```

```
        <filter>
            <category>23</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>22</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
        <enabled>1</enabled>
    </rule>
    <rule>
        <id></id>
        <filter>
            <category>17</category>
            <vendor></vendor>
            <behavior></behavior>
            <technology></technology>
            <protocol></protocol>
            <application></application>
            <popularity></popularity>
        </filter>
        <action>block</action>
```

```
                        <enabled>1</enabled>
                    </rule>
                    <rule>
                        <id></id>
                        <filter>
                            <category>3</category>
                            <vendor></vendor>
                            <behavior></behavior>
                            <technology></technology>
                            <protocol></protocol>
                            <application></application>
                            <popularity></popularity>
                        </filter>
                        <action>block</action>
                        <enabled>1</enabled>
                    </rule>
                </rules>
            </profile>
        </profiles>
    </firewall>
    <vulnerability_scan>
        <enabled>1</enabled>
        <scheduled_scans>
            <schedule>
                <scan_on_fgt_registration>0</scan_on_fgt_registration>
                <repeat>2</repeat>
                <type>24</type>
                <day>31</day>
                <time>00:00:00</time>
            </schedule>
        </scheduled_scans>
    </vulnerability_scan>
    <antivirus>
        <scheduled_scans>
            <full>
                <enabled>1</enabled>
                <repeat>1</repeat>
                <days>2</days>
```

```
            <time>18:30</time>
            <removable_media>1</removable_media>
        </full>
    </scheduled_scans>
    <on_demand_scanning>
        <on_virus_found>4</on_virus_found>
        <compressed_files>
            <scan>1</scan>
            <maxsize>0</maxsize>
        </compressed_files>
        <riskware>
            <enabled>0</enabled>
        </riskware>
        <adware>
            <enabled>0</enabled>
        </adware>
        <heuristic_scanning>0</heuristic_scanning>
        <exclusions></exclusions>
    </on_demand_scanning>
    <real_time_protection>
        <enabled>1</enabled>
        <when>0</when>
        <on_virus_found>5</on_virus_found>
        <popup_alerts>1</popup_alerts>
        <compressed_files>
            <scan>1</scan>
            <maxsize>2</maxsize>
        </compressed_files>
        <riskware>
            <enabled>0</enabled>
        </riskware>
        <adware>
            <enabled>0</enabled>
        </adware>
        <heuristic_scanning>
            <enabled>0</enabled>
            <action>0</action>
        </heuristic_scanning>
```

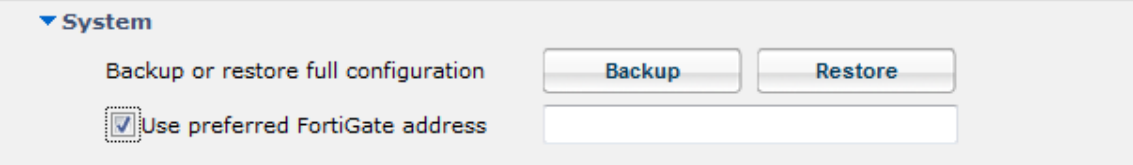
```
            <exclusions></exclusions>
        </real_time_protection>
        <quarantine>
            <cullage>100</cullage>
        </quarantine>
    </antivirus>
</forticlient_configuration>
```

Backup or Restore the Configuration File

Backup the full configuration file

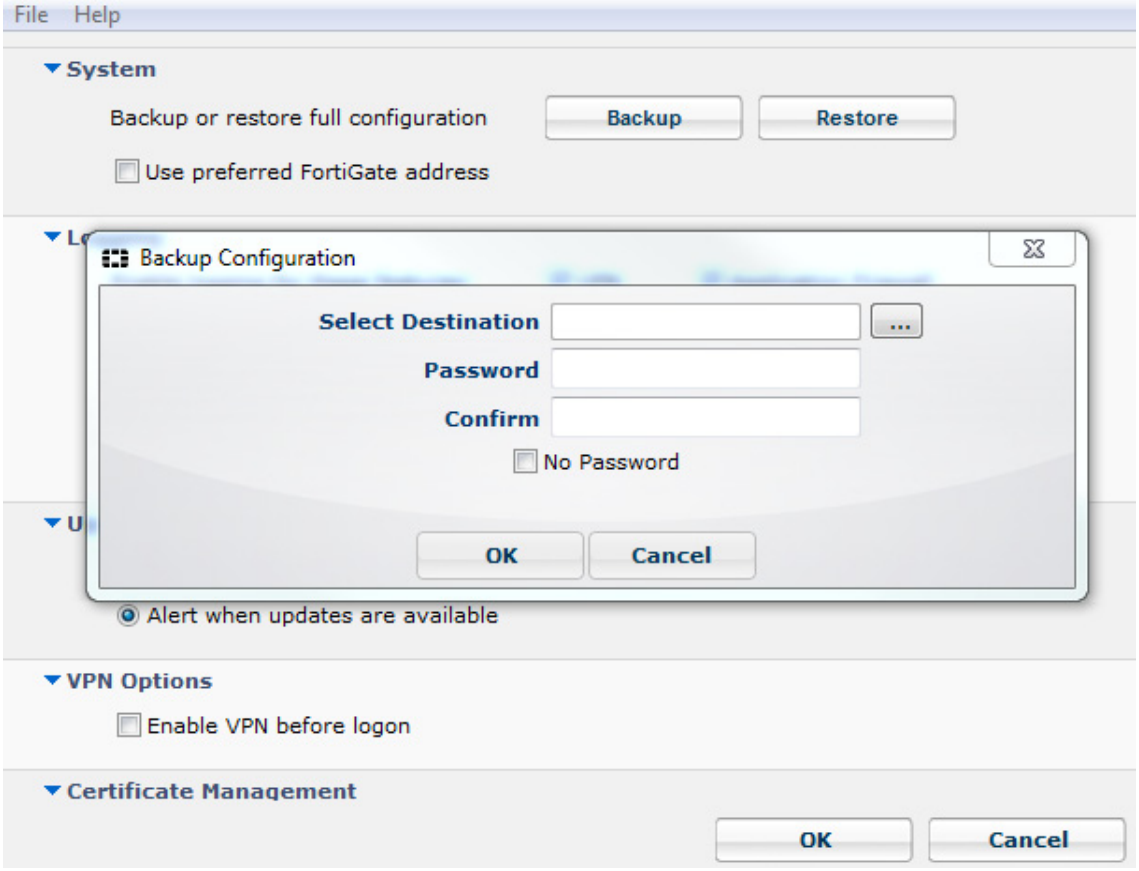
To backup the full configuration file, select *File* on the tool-bar, and *Settings* on the drop-down menu. Select *System* to view the drop-down menu. On this menu you can perform a backup of the full configuration file.

Figure 1: Backup and Restore options



When performing a backup, you can select the file destination, and save the file in an unencrypted or encrypted format.

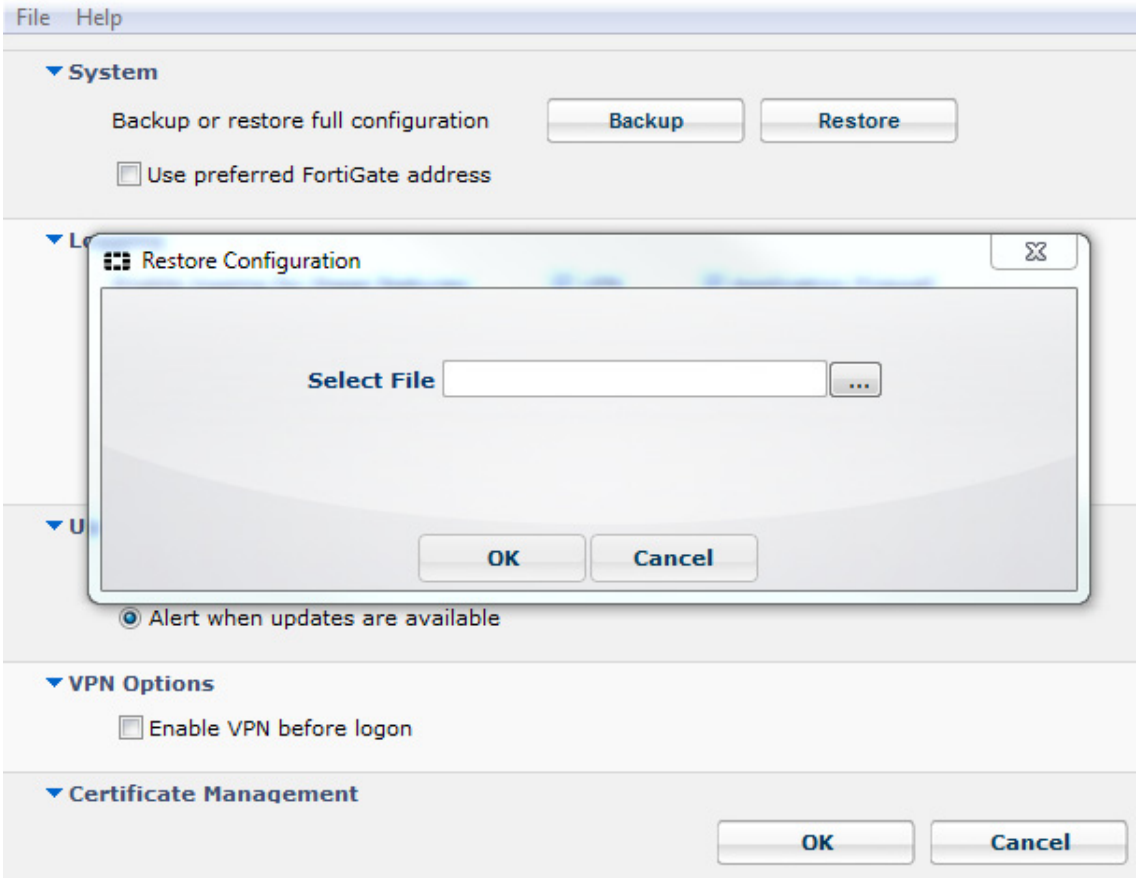
Figure 2: Backup configuration file selection and options



Restore the full configuration file

To restore a full configuration file, select *File* on the tool-bar, and *Settings* on the drop-down menu. Select *System* to view the drop-down menu. On this menu you can select Restore to import a backup of the full configuration file. Select Restore and browse for the file on your local hard disk drive.

Figure 3: Restore a configuration file



If the configuration was protected with a password, a password textbox will be displayed. Enter the password used to encrypt the backup configuration file.

Backup and restore command line utility commands and syntax

Fortinet provides administrators the ability to import and export configurations via the CLI.

The following commands are available for use:

Backup the configuration file

```
FCConfig -m all -f <filename> -o export -i 1
```

Backup the configuration file (encrypted)

```
FCConfig -m all -f <filename> -o export -i 1 -p <encrypted password>
```

Restore the configuration file

```
FCConfig -m all -f <filename> -o import -i 1
```

Restore the configuration file (encrypted)

```
FCConfig -m all -f <filename> -o import -i 1 -p <encrypted password>
```

Export the VPN tunnel configuration

```
FCConfig -m vpn -f <filename> -o exportvpn -i 1
```

Export the VPN tunnel configuration (encrypted)

```
FCConfig -m vpn -f <filename> -o exportvpn -i 1 -p <encrypted
    password>
```

Import the VPN tunnel configuration

```
FCConfig -m vpn -f <filename> -o importvpn -i 1
```

Import the VPN tunnel configuration (encrypted)

```
FCConfig -m vpn -f <filename> -o importvpn -i 1 -p <encrypted
    password>
```

Backup and restore CLI commands are an advanced configuration option.

Upload the FortiClient XML file to FortiGate

In FortiOS v5.0.0 GA, the buffer size for the Endpoint Control XML configuration is 32KB.

Full configuration option

You need to enable advanced configuration from CLI to upload the FortiClient XML file. Enter the following command on the FortiGate:

```
config endpoint-control profile
  edit "default"
  config forticlient-winmac-settings
    set forticlient-advanced-cfg enable
    set forticlient-advanced-cfg-buffer "copy&paste your advanced
        forticlient xml configuration here"
    end
  next
end
```

After forticlient-advanced-cfg is enabled, forticlient-advanced-cfg-buffer setting is available from the CLI. You can also choose to copy/paste the XML content from the Web-based Manager, go to *Device* > *Endpoint Profile.*

Advanced VPN configuration

If you only want to upload the VPN configurations, you can use the CLI as well:

```
config endpoint-control profile
  edit "default"
  config forticlient-winmac-settings
    set forticlient-vpn-provisioning enable
    set forticlient-advanced-vpn enable
    set forticlient-advanced-vpn-buffer "copy&paste your advanced
        VPN configuration XML here"
    end
  next
end
```

Advanced Features

Advanced features (Windows)

Connect VPN before logon (AD environments)

The VPN `<options>` tag holds global information controlling VPN states. The VPN will connect first, then logon to AD/Domain.

```
<forticlient_configuration>
  <vpn>
    <options>
      <show_vpn_before_logon>1</show_vpn_before_logon>
      <use_windows_credentials>1</use_windows_credentials>
    </options>
  </vpn>
</forticlient_configuration>
```

Create a redundant IPsec VPN

To use VPN resiliency/redundancy, you will configure a list of FortiGate IP/FQDN servers, instead of just one:

```
<forticlient_configuration>
  <vpn>
    <ipsecvpn>
        <options>
        ...
        </options>
          <connections>
            <connection>
              <name>psk_90_1</name>
              <type>manual</type>
              <ike_settings>
              <prompt_certificate>0</prompt_certificate>
              <server>10.10.90.1;ipsecdemo.fortinet.com;172.17.61
                   .143</server>
              <redundantsortmethod>1</redundantsortmethod>
              ...
          </ike_settings>
        </connection>
      </connections>
    </ipsecvpn>
  </vpn>
</forticlient_configuration>
```

This is a balanced, but incomplete XML configuration fragment. All closing tags are included, but some important elements to complete the IPsec VPN configuration are ommitted.

RedundantSortMethod = 1

This XML tag sets the IPsec VPN connection as ping-response based. The VPN will connect to the FortiGate which responds the fastest.

RedundantSortMethod = 0

By default, RedundantSortMethod =0, and the IPsec VPN connection is priority based. Priority based configurations will try to connect to the FortiGate starting with the first on the list.

Priority based SSL-VPN connections

SSL-VPN supports priority based configurations for redundancy.

```
<forticlient_configuration>
  <vpn>
    <sslvpn>
      <options>
        <enabled>1</enabled>
        ...
      </options>
      <connections>
        <connection>
          <name>ssl_90_1</name>
          <server>10.10.90.1;ssldemo.fortinet.com;172.17.61.143:44
              3</server>
          ...
        </connection>
      </connections>
    </sslvpn>
  </vpn>
</forticlient_configuration>
```

This is a balanced, but incomplete XML configuration fragment. All closing tags are included, but some important elements to complete the SSL VPN configuration are ommitted.

For SSL-VPN, all FortiGates must use the same TCP port.

Enabling VPN autoconnect

VPN auto connect uses the following XML tag:

```
<autoconnect_tunnel>ipsecdemo.fortinet.com</autoconnect_tunnel>
```

Inside:

```
<vpn>
  <options>
```

Save password is also needed because it is autoconnect:

```
<save_password>1</save_password>
```

Enabling VPN always up

VPN always up uses the following XML tag:

```
<keep_running>1</keep_running>
```

Inside:

```
<vpn>
  <connection>
```

Advanced features (Mac OS X)

Enabling VPN autoconnect

VPN auto connect uses the following XML tag:

```
<autoconnect_tunnel>ssl 198 no cert</autoconnect_tunnel>
```

Enabling VPN always up

VPN always up uses the following XML tag:

```
<keep_running>1</keep_running>
```

VPN before logon, IPsec VPN and SSL-VPN redundancy are currently not supported in FortiClient v5.0.0 GA (Mac OS X).

VPN tunnel & script (Windows)

Feature overview

This feature supports auto running a user-defined script after the configured VPN tunnel is connected or disconnected. The scripts are batch scripts in Windows and shell scripts in Mac OS X. They will be defined as part of a VPN tunnel configuration on FortiGate's XML format Endpoint Profile. The profile will be pushed down to FortiClient from FortiGate. When FortiClient's VPN tunnel is connected or disconnected, the respective script defined under that tunnel will be executed. These scripts can also be configured directly on FortiClient, by importing the XML configuration file.

Map a network drive after tunnel connection

The script will map a network drive and copy some files after the tunnel is connected.

```
<on_connect>
  <script>
    <os>windows</os>
      <script>
        <script>
          <![CDATA[
net use x: \\192.168.10.3\ftpshare /user:Honey Boo Boo
md c:\test
copy x:\PDF\*.* c:\test
              ]]>
        </script>
      </script>
  </on_connect>
```

Delete a network drive after tunnel is disconnected

The script will delete the network drive after the tunnel is disconnected.

```
<on_disconnect>
  <script>
    <os>windows</os>
    <script>
      <script>
        <![CDATA[
net use x: /DELETE
          ]]>
</script>
      </script>
    </script>
  </on_disconnect>
```

VPN tunnel & script (Mac OS X)

Map a network drive after tunnel connection

The script will map a network drive and copy some files after the tunnel is connected.

```
<on_connect>
  <script>
    <os>mac</os>
    <script>
      /bin/mkdir /Volumes/installers
      /sbin/ping -c 4 192.168.1.147 >
           /Users/admin/Desktop/dropbox/p.txt
      /sbin/mount -t smbfs
           //kimberly:RigUpTown@ssldemo.fortinet.com/installer
           s /Volumes/installers/ >
           /Users/admin/Desktop/dropbox/m.txt
      /bin/mkdir /Users/admin/Desktop/dropbox/dir
      /bin/cp /Volumes/installers/*.log
           /Users/admin/Desktop/dropbox/dir/.
    </script>
  </script>
</on_connect>
```

Delete a network drive after tunnel is disconnected

The script will delete the network drive after the tunnel is disconnected.

```
<on_disconnect>
  <script>
    <os>mac</os>
    <script>
      /sbin/umount /Volumes/installers
      /bin/rm -fr /Users/admin/Desktop/dropbox/*
  </script>
  </script>
</on_disconnect>
```

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